Railway Age

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Northern Pacific Yards, St. Paul—Photo by Ewing Galloway

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Railway Age

Vol. 82, No. 7 February 12, 1927

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Ticket Clerks Need Coaching

THE recent football season, with its attendant heavy passenger traffic, brought forth some interesting contrasts in service. Ten days before a big game in highly competitive territory a prospective purchaser of four parlor car tickets telephoned and was informed, courteously enough, that they were not available. Upon asking whether additional cars would be added, the ticket clerk informed him that he did not know and hung up the 'phone. From his attitude it was apparent also that he did not care. In contrast was the conduct of a ticket agent of another road. Here the trip was entirely non-competitive. Despite this, when asked if a special would be run the ticket clerk said it had not been decided. But he was interested and did not let the question rest there. He took the telephone number of the inquirer and the next day telephoned full and complete information. The conduct of ticket clerks determines very largely the public's impression of the railway. Nothing needs closer supervision.

Signals Save $4,500 Annually On Five Miles

THE direction of train movements by signal indication instead of by written train orders on five miles of single track, including a junction point at one end and a terminal at the other, has not only facilitated train movements over this busy section of track, but has also permitted the transfer of three operators to other points, thus permitting a saving in salaries of $4,500 annually. Many other roads, no doubt, have short sections of track near terminals that carry the traffic of two or more converging lines, where trains are now being delayed to handle train orders. An installation of signals to direct train movements by signal indication on such a section of line will provide an individual proving ground for a method of operation that is gaining favor rapidly on account of the elimination of train stops, the reduction in operating expenses, and the increased safety resulting from the ability to display the signal indication to direct the movement of a train at the time and place where the engineman is to act upon it.

Superficial Train Control Inspection

AUTOMATIC train control equipment in a number of cases is being inspected and maintained, insofar as the electrical apparatus on the locomotive is concerned, by the regular headlight maintainers. The men are evidently capable and the equipment is operating satisfactorily, but under certain circumstances this can hardly be expected to continue. In one case in which it takes 20 minutes to make a complete automatic train control test without any time allowed for getting from one locomotive to another, a maintainer and his helper are expected to inspect from 20 to 25 locomotives in an eight-hour period, making any repairs that may be necessary. In another case, there are from 45 to 50 locomotives inspected in two eight-hour tricks with only one maintainer working at a time. The only possible answer is that the men are not doing the work that is required. Perfunctory inspection may involve no difficulties while the wiring and equipment is new, and little inspecton time may be needed when the standards of wiring and equipment design have been improved, but if practices such as those mentioned are continued, equipment failures are certain to follow.

Making Its Own Mechanics

IN 1926 more than 700 shop crafts apprentices satisfactorily completed their four years of training on the Atchison, Topeka & Santa Fe. One problem that has concerned both the managements and the workers in the mechanical departments of the railways has been to determine the number of apprentices that should be in course of training, to provide for all the vacancies which occur in the ranks of the skilled workers and at the same time not have to turn away any of the graduate apprentices because of lack of openings. The Santa Fe appears to have been eminently successful in this respect, because of the apprentices completing their four years' course last year 98 per cent are now in the employ of the company. It is to be assumed, of course, that even under the most favorable circumstances not all of the young men will want to remain in the service, and 98 would appear to be about as high a percentage as could be expected under normal conditions. Moreover, it is understood that the graduate apprentices last year practically supplied the demand for skilled workers and that the indications are that it will not be necessary to go outside for skilled workers in any of the shop crafts during the current year.

The Ideal Draft Gear

IN commenting in these columns last week on the need for determining the qualities which must be possessed by a satisfactory draft gear, it was said that the draft gear manufacturers can design their apparatus to cover almost any reasonable requirements within the limitations imposed by the space available, provided the opinion of mechanical engineers and operating officers can be brought into agreement as to what these ideal characteristics should be. It is well, however, to direct attention to the fact that the standard space dimensions available to receive the draft gear in the freight car impose very definite limitations on the manufacturers. With cars of 50 tons capacity and less, the restrictions of these limita-

tions have probably not been seriously felt. With cars of 70 tons capacity and upward, however, the situation is not quite so clear. In its program to develop recommendations as to the requirements of the ideal draft gear, if the present space limitations are accepted as unchangeable irrespective of the masses which must be dealt with by the gears, is it not probable that something considerably less than ideal requirements will have to be accepted? To meet these compromise requirements satisfactorily, may the railroads not pay dearly in development costs to overcome the difficulties imposed by the present space limitations and in shorter life and higher maintenance costs? In any serious effort to solve the draft gear problem, should not some consideration be given to the possibility of attaining more nearly ideal characteristics, with longer life and better average operation during that life, by some relaxation of the present space limitations?

Company Material as an Index of Railway Efficiency

IT would do every railway officer good to sit down on the platform in the material yard of his store house and visualize company material from the standpoint of management. He would there see that what he finds in the store house is not merely a measure of store department efficiency, but rather a composite picture of his own efficiency. In recent years there has been a marked awakening in the supply department, and great improvements have been made in the conditions under which company materials are bought and handled. That this is due in large measure to the efforts of supply officers themselves is not to be denied. But when the real accomplishments in this field of endeavor are studied closely, it becomes evident that the real accomplishments in stores work are the results of improvements elsewhere on the properties. Find a supply organization whose books reveal a decrease of $1,000,000 in stock on its shelves, and one will usually find a counterpart for it in the departments where this material is used. Correspondingly, find a supply organization which is carrying $1,000,000 more material on its shelves and platforms than is necessary, and an explanation is likely to be found in the inefficiency with which work is conducted elsewhere. The supply department is one mirror of railway efficiency, and it should be the aim not only of executives, but of mechanical and engineering officers as well, to co-operate with supply officers in accomplishing those results which reflect efficiency rather than inefficiency.

"What Station Was That?"

IT has long been accepted as a fixed rule that every wayside passenger station should be provided with one or more name plates or signs. Such signs are deemed necessary for the safe operation of trains, but they have also been accepted by passengers as a utility provided for their benefit in recording progress in a railway journey or the approach to a destination. However, it is to be questioned whether the signs now commonly provided entirely fulfill this latter function. Station signs are usually placed just below or above the eaves at each end of the station building, and sometimes also on the track front of the building in a position parallel with the track. For the passenger on a local train, signs so placed serve their purpose very well, for with a train standing at the station or moving slowly, he has no difficulty in reading them. On through trains traveling at high speeds, it is difficult for a passenger to see a sign long enough to read it unless he is riding in an observation car. On most roads the occupant of a berth in a sleeper who wakes up and wants to ascertain his location is often distinctly out of luck if he happens to be on the side of the train away from the normal location of the stations, for he may ride through half a dozen towns without seeing any identifying name sign. A large sign provided by some local chamber of commerce or boosters' club may provide him with the desired information, but, except on the few roads that provide signs on the side of the track away from the station, he gets no help from the railroad. The development of plans for better station markers is not without its difficulties. It is obviously objectionable to disfigure a handsome passenger station with a sign of inordinate proportions or one placed at an angle that will provide greater legibility from the car window. A sign placed parallel with the track at some distance away will be much more easily read from a rapidly moving train than one placed on the station building itself, but it is not always possible to find a suitable location for such a sign. It should be evident, however, that many of the signs now provided do not serve the purpose from the standpoint of the passenger on the "limited."

Merchandising Passenger Transportation

RAILROADS are at an increasing number of large stations providing for the sale of both railroad and Pullman tickets at the same windows—a facility to which the traveling public is certainly entitled wherever it is reasonably feasible. Theoretically at least, on many roads Pullman accommodations are not supposed to be sold until the prospective passenger can show his railroad ticket. On the other hand, unless Pullman space can be obtained the traveler probably does not desire a railroad ticket. The procedure then, in stations where separate facilities are provided for railroad and Pullman ticket sales, is for the passenger first to go to the Pullman window and inquire whether space is to be had; then go to the railroad window and buy his ticket; then return to the Pullman window for his Pullman ticket. This is a troublesome routine, even if the facilities are not crowded. If there are long lines at these windows, the passenger is often inclined to become exasperated at being compelled to wait his turn in three lines, where with more modern arrangements in achieving the front of but one line he could satisfy all his requirements. There are places, of course, where probably combining the sale of railroad and Pullman accommodations would not be warranted. However, the fact remains that such combination is a service to prospective passengers and one which eliminates a possible source of ill-will toward the railroad. Merchandisers of passenger transportation can afford to devote much effort toward clearing away such obstacles to their selling program.

Much Ado About "Merger Rails"

THERE is great excitement now in Wall Street over "merger rails," and the tradesmen of that community are beginning to count that market day lost which does not send one or another such stock skyrocketing. For the benefit of the uninitiated, if any, it might be explained that "merger rail" stocks are usually those of

smaller railroads which larger railroads are thought to be yearning to take into the family. One sees many references to "shorts," "corners" and "struggles for control between giant railway systems" even on the front pages of the newspapers. Minor railway stocks go booming upward 5, 10, even 15 points. Rumors fly thick and fast. The names of Loree and Van Sweringen are on every tongue. This road is buying that one, some other one, another. Some of the rumors are true, as evidenced by the recent announcement of the New York Central, the Nickel Plate and the Baltimore & Ohio that they had bought into the Wheeling & Lake Erie and of the B. & O. that it had purchased a substantial interest in the Western Maryland. This booming market in the "merger rails" has been a God-send to the brokerage houses and professional traders. It developed, or was developed, at a time when the market as a whole was slow and sluggish. So they have seized upon "merger rails" with glad cries and are giving them a merry whirl, with the eager assistance of the outside public. It must be somewhat bewildering to the "merger rails" themselves. "Whither," they must ask themselves, "are we drifting?" It's a wise railroad that knows its own merger.

Virtues of the Positive Meet

IT is only common fairness to the conductor and the engineman of a fast train, to adhere as closely as possible to the rule that dispatcher's meeting orders shall not be delivered to trains an unnecessarily long time before the order is to be executed; but, willing or unwilling, the dispatcher on a busy road, with passenger trains running long distances without stopping, may often find himself practically compelled to send orders an hour or more previous to the time when the meet actually will be made. Besides burdening the conductor's and engineman's mind a longer time than ought to be necessary, this early sending imposes a burden on the dispatcher; and the longer the time the greater the chance that he may be compelled later to annul the order and name another station as the meeting point. In a recent discussion among dispatchers concerning the "positive meet" rule, as used on the New York, New Haven & Hartford, each of two veterans called attention to the relief that that rule gives to the dispatcher in this respect; he can defer giving the order until the trains have more nearly reached the meeting point. This is but one element in the advantages of the positive meet; but it is an important one. It is true that, as to the desirability of avoiding the fixing of meeting points too long a time in advance, different dispatchers might perhaps have differing views, according to differences in their individual experiences; but on one point concerning the virtues of the positive meet the discussion referred to brought out unanimous testimony; namely, that the positive meet is already in practice extensively on roads which refuse to recognize it formally. That is to say, it is the regular practice to send an order every day to each of two regular trains, requiring them [positively] to meet at *X*, although *X* is already designated on the time table as the meeting point for those trains. The order simply relieves the inferior train of its inferiority for that place on that day; and a few minutes' time may be saved, with incidental reduction of the chances of error. Then, on the next day, the same thing is gone over again. Imitation is the sincerest form of flattery and the positive-meet enthusiasts very plausibly claim that where this practice prevails, they have won their point without argument!

Selling to the Railways

THE American Railway Car Institute a few months ago sent a letter to President Aishton of the American Railway Association presenting reasons why the car builders believe the railways should restrict the construction and reconstruction of equipment in their own shops and have this work done almost entirely by manufacturing companies. The subject was considered by the directors of the American Railway Association, who instructed the president to reply that "the determination of the policy of the individual carriers with relation to these activities must necessarily be decided by their boards of directors and executive officers" with regard to "their ability to render adequate transportation" and "the rendering of such transportation at the lowest possible cost." Subsequently the president of a large railway equipment company sent letters to a United States senator and a member of the President's cabinet implying that in increasing manufacturing the railways are acting in bad faith and contrary to the public interest and suggesting legislation by Congress virtually to prohibit them from manufacturing for their own needs.

Relations of Buyer and Seller

These developments are highly illustrative of differences of opinion that sometimes are manifested regarding the way dealings between manufacturers and railways should be conducted. Railway officers believe the management of each individual road should be entirely free to decide for itself what it will buy or make for its own use and from what concern or concerns it will buy, and should be as unhampered in making and carrying out its decisions regarding such matters as the management of any other kind of concern. A very great majority of those who sell or seek to sell to railways accept this as sound. There are, however, frequent complaints that influences other than price, quality and promptness of delivery—traffic considerations, for example—often affect purchases. There have been other cases in which individual manufacturers have sought to use unfair propaganda or the power of government to help them make sales which they conceded, by appealing to these means, they did not believe they could make without their aid.

The railways always should resist to the utmost, by every legitimate means, every attempt to use coercion, whether it take the form of unfair propaganda or government regulation, to determine their individual policies as to either purchasing or manufacturing. Once it is in possession of information adequate for making a decision, the management of each railway should, in the interest of both its security owners and the public, decide whether it will manufacture or buy, or what or from whom it will buy according to its best judgment as to what will be most conducive to economical operation and efficient service, and its management should not be artificially hampered in any way in reaching a decision or in carrying it out.

Pertinent Questions About Manufacturing

The pertinent and important questions that have been raised in the discussion of manufacturing by railways are as to whether the managements of the individual lines do have adequate and accurate information, and as to whether they are acting unhampered in accordance with it. Do they really know how their costs of manufacturing compare with the prices asked by manufacturing companies? Are they being influenced with respect to manufacturing by pressure from the Interstate Commerce Commission and the labor unions, or solely by

ordinary business considerations? If they do not know what are the comparative costs of manufacturing and buying from outside manufacturers, they cannot decide intelligently which they should do. For them to act contrary to their best judgment because of pressure from the commission or the labor unions will have effects upon their costs of the same kind as would be produced by illegitimate pressure from any other source.

If some or many of the railways are proceeding contrary to sound business principles by engaging to excess in manufacturing, in what way should they be influenced to change their policy and whose natural task is it to get them to change it? The only influence that should be applied to them is the influence of salesmanship—the presentation to their officers of convincing evidence and arguments. Those whose natural function it is to "sell" them are the manufacturers. The means that should be used to get before them the right kind of evidence and arguments obviously are those ordinarily used in all kinds of legitimate and successful selling campaigns. Resort to unfair propaganda and appeals for government regulation in the interest of manufacturing companies can do only harm to both railways and manufacturers.

Who Is Making Mistakes?

Why is there at present so much discussion of manufacturing by railways? Why is it that most of the complaints that they are engaging to excess in manufacturing come principally from certain groups of manufacturers? If it is true that they are engaging to excess in manufacturing of certain kinds, is it reasonable to assume that the policy being followed by them is entirely attributable to mistakes of their officers? May it not be largely attributable to failure on the part of some manufacturers themselves in the past and at present to furnish, from their point of view, to all the officers of the railways who influence their purchasing policy the information and reasons upon which a sound policy of purchasing or manufacturing should be based? For the railways to incur costs in manufacturing equipment or devices exceeding the prices for which they could buy them would be contrary to their own interests. It is therefore unreasonable to assume and unfair to charge that they would do this knowingly. It is only reasonable and fair to assume that if in any case or cases they are doing it, this is largely or mainly because the manufacturers who wish to sell to them have failed to use the right methods to convince them that they should buy rather than manufacture.

There always has been heard a good deal of criticism of the purchasing methods and policies of the railways. Over and over again it has been charged that they have not been receptive to attempts to sell them improved devices, that they have been disposed to buy on the basis of price rather than quality, and that in other ways they have acted contrary to their own interests. No doubt in many cases these criticisms have been well-founded. The organization of a large railway is extensive and has many ramifications, and it is usually necessary to get many minds to agree before it will adopt an important new device or policy or abandon an old one. It is, however, a notable and indisputable fact that, over periods of years, the railways have put into service innumerable new and improved devices, that they have made innumerable important changes and improvements in their methods and policies, and that, in the aggregate, the improvements made in their physical properties and in the efficiency and economy of their operation have been stupendous. In view of these facts it is hardly reasonable to assume that the managements of individual railways, or of large numbers of them, will, in purchasing, manufacturing or doing anything else, long follow any policy which they are shown is inimical to efficiency, economy and good service.

Attitude Toward the Customer

If they seem to those who want to sell them something to be persistently following a policy inimical to these things, and to be unwilling to change it, it will usually be found expedient for those who want to sell to them to accept the view that when prospective customers remain unconvinced it is quite as likely there is something wrong with the business methods of those who are trying to do the selling as with the business methods of those they are trying to sell to. Success in the railway equipment and supply and in all other fields ordinarily has been built on the assumption that prospective customers are reasonable and therefore can be made satisfactory customers, first, by offering them good goods at reasonable prices, and, secondly, by using efficient methods of salesmanship. Neither in this nor in any other field has commercial success often been attained in any other way—as, for example, by appeals to government to coerce the customer.

An Educational Responsibility

THE railroad management is responsible for seeing that all of the employees understand clearly exactly how the particular tasks which are assigned to them should be performed. There are not a few, however, who believe that its responsibility should go beyond this and include the education and training of all employees in such a way that their particular talents can be developed and utilized to the best advantage of both the railroad and the employee. An appreciation of this larger conception naturally places the management under a heavy responsibility. It is safe to say that no road has begun to more than scratch the surface in this respect. True, some few of them have done splendid work in educating and training certain limited classes of the employees, such, for instance, as the shop crafts apprentices. Others are trying in various ways to perform a like service for other classes of workers. In a few cases they have been assisted by state or federal educational institutions, notably the extension departments of state universities and the boards of vocational education.

While the railway managements have in most cases taken the initiative, there has been a growing urge on the part of the workers for the opportunity and privilege of continuing their training and studies with a view to fitting themselves for larger and more important positions in the organization. Some commercial educational institutions have rendered excellent service and splendid cooperation in preparing special courses of study for the different classes of employees.

Unfortunately, some so-called educational organizations have entered this field that have been poorly organized or fitted to render a real service, and whose principal motive seems to have been to make easy money at the expense of the railway employees. Is it not true that just as efforts are being made to protect employees from making unwise investments, an equal effort should be made to protect them from inadequate educational institutions that are taking an unfair advantage of them?

The National Correspondence School Committee of the American Association of Engineers has gone so far as to suggest a law for curbing "fake correspondence schools." The chairman of the committee recently stated that: "In view of the fact that our country is over-run with correspondence schools that by misleading advertising and

misleading circular matter are robbing young America out of millions of dollars per year, the American Association of Engineers has prepared a bill to curb misleading correspondence schools, and this bill is now being introduced into the various state legislatures and will ultimately be introduced into Congress in order to obtain federal legislation on this subject."

Whether such a law could be effective in helping to weed out the evil may be open to question, but meanwhile is it not squarely up to the railroad managements to do all they can to protect employees, who are anxious to improve themselves, from exploitation on the part of inefficient and inadequate organizations of this sort?

Heavier Loading of Cars

IT is a good illustration of the way the railways and shippers of the country are co-operating to improve freight service, and at the same time reduce the cost of rendering it, that the Atlantic States Shippers' Advisory Board and the railways have joined in a movement for heavier loading of cars. During the month of May they will ascertain the loading of all cars handling certain bulky commodities, and the board has made the promotion of heavy loading one of the principal parts of its program for this year.

Comparative statistics regarding the increases that have occurred during the last six years in the freight traffic handled, and in the number of miles freight cars have been run, reflect remarkable changes that have occurred in traffic and in the operating methods of the railways. The number of tons moved one mile in 1926 was 7½ per cent greater than in 1920. The number of miles freight cars were moved was 24 per cent greater. There are two reasons why the number of miles freight cars moved increased relatively so much more than freight ton mileage.

One of these was that the average number of tons carried per loaded car declined. In 1920 it was 29.3 tons. It decreased steadily during the next five years. It was slightly greater in 1926 than in 1925, but last year was only 27.3 tons, although the average capacity of cars was about three tons greater than in 1920. Study of statistics bearing on the subject indicates that apparently the decline in the average load per loaded car was not due to a change in the loading practice of shippers. The shippers of any given commodity seem year by year to have loaded about the same number of tons of that particular commodity per car. The decline in the average load seems to have been mainly or entirely due to the fact that year by year total shipments of light loading commodities increased relatively more than total shipments of heavy loading commodities. For example, throughout the period the average carload of coal was about 50 tons, and that of automobiles and trucks about 7½ tons, but since shipments of automobiles increased much more in proportion than of coal the effect was to reduce the average loading of all cars. It is easily demonstrable, however, that while during these years the railways increased the average capacity of their cars the shippers of very few specific commodities increased their average loadings. This being the case, it was inevitable that, with shipments of light loading commodities increasing more in proportion than those of heavy loading commodities, the average of all loadings per car would decline.

In 1926 the average number of tons carried per loaded car was only 64 per cent the marked capacity of the car. Technically the capacity of a car is measured by the weight it can carry, and not by the amount of space in it. Some commodities are so light in proportion to the space they require that it is impossible to load as many tons of them in a car as the mere strength of the car enables it to carry. There can be no doubt, however, that the loading of many commodities can, by entirely reasonable efforts by the shippers, be increased; and there is no other means available by which the traffic handled by the railways can be increased so much with almost no addition to their operating expenses as by increasing the loading of cars.

A second and more important reason why the mileage traveled by freight cars has increased relatively much more than the ton mileage of freight is disclosed by the following figures: Between 1920 and 1926, while the number of tons carried one mile increased 7½ per cent, the number of miles that cars were moved loaded increased 14.6 per cent, and the number of miles they were moved empty increased 43.7 per cent. There was no increase, but an actual reduction of about one per cent, in freight train miles, this being due to the large increase in the average number of cars handled per train. In 1920 the average train contained about 38½ cars, of which 26 were loaded and 12½ were empty. In 1926 the average train contained about 45 cars, of which 29 were loaded and 16 were empty.

Good freight service consists in promptly furnishing shippers the cars they order and moving them loaded to their destination without delays. Experience seems to show that the better cars are distributed and handled in accordance with the requisitions of shippers, the larger will be the ratio of empty mileage to loaded mileage. At least, car service statistics show that almost invariably empty mileage has been less in proportion to loaded mileage in years of congestions and "car shortages" than in years, such as 1926, that have been free from them. This does not seem unnatural. In numerous cases it is necessary, especially in periods of heavy traffic, to move large numbers of cars empty in order to supply them to shippers just when and where they are needed.

For example, if thousands of cars had not been rushed empty to the southwest last year there would have been a shortage of cars for moving the wheat from that territory. A relatively large empty mileage seems to be one of the penalties that must be paid for rendering at all times adequate and satisfactory freight service in every part of the country. The penalty is a heavy one, because it increases railway operating expenses almost as much to move a car empty as to move it loaded. The railways have greatly reduced their operating expenses within the last six years. They could have reduced them much more, excepting for the increase in empty mileage.

It is highly significant of the increase in operating efficiency that has occurred that, although in 1926 the average loaded car carried less freight than in 1920, and although each car moved a good many more miles empty, the amount of service actually rendered with each car in moving freight substantially increased. The average number of tons moved one mile daily by each freight car in 1920 was 498, and in 1926 about 535. The increase in the amount of freight service rendered with each car was entirely due to the increase in the average number of miles that each car was moved daily, this having been 25 miles in 1920 and 30½ miles in 1926.

Whether the proportion of empty to loaded car mileage can be reduced, and at the same time the present good and adequate service to shippers be maintained, is a very important question that transportation officers throughout the country are studying. Meantime, by increasing loading per car and continuing their efforts to expedite the loading and unloading of cars, shippers can cooperate very effectively with the railways in increasing the useful service obtained from each car and in thereby reducing the cost of rendering good freight service.

The Approach to the Coaling Station over the Inspection and Cinder Pits

Reading Builds Unusual Coaling Station at Rutherford, Pa.

Mixing and measuring devices permit use of more economical fuel and the measurement of all withdrawals

EARLY last year the Reading completed the construction of a reinforced concrete coaling station at Rutherford, Pa., which is unusual in many respects and of special interest because of the incorporation of a number of effective arrangements for the mixing of anthracite and bituminous coal and for measuring the coal as it is delivered to locomotive tenders. This station is also of interest because of its record of performance which dates back to the time when it was only partially completed, at which time it was coaling 129 locomotives in 24 hours, which is about the demand on the completed station at the present time.

At this station, which has a total capacity of 2,000 tons and serves six tracks, it is possible to handle either anthracite or bituminous coal alone, or to mix them in any desired proportion or degree of fineness. While only two or three classes of coal are handled at this point as a usual practice, it is possible to mix and handle 12 different grades of coal at one time. The entire installation is of such a nature that an accurate and economical control of the coal is had at all times.

The coal-handling equipment at this station is arranged in duplicate, with two machinery installations, each with a capacity of mixing, crushing and elevating 112½ tons of coal per hour. The delivery of the measured coal can take place on all six tracks at one time, and it requires only about 2½ minutes to secure an average tender load of 8½ tons. Combined with the coaling facilities, the station includes a novel arrangement of wet sand storage and drying facilities, the latter being located on a high level, to and from which the sand is delivered by gravity.

Arrangement and Operation Is Effective

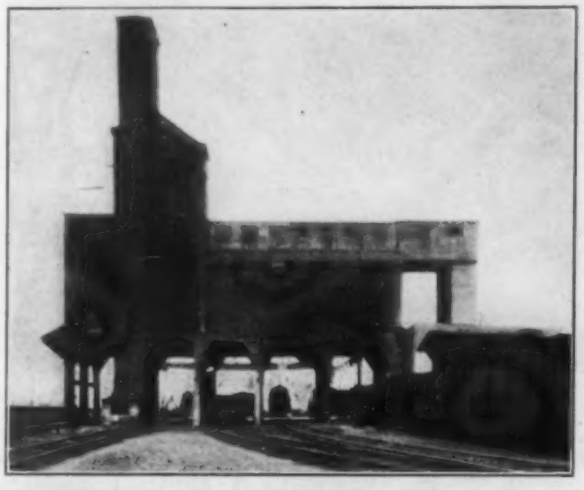
The new station is located at Rutherford, Pa., about five miles east of Harrisburg, and in addition to supplying coal to the Reading, serves the Pennsylvania and the Western Maryland, which companies purchase coal from that road. The structure is rectangular in shape, spanning seven tracks, two of which are hopper tracks. The main storage space of the station is divided into 12 bins of 170 tons capacity each, arranged in pairs over the tracks. Each of these bins delivers to a one-ton measuring valve incorporated in connection with a special type of coaling chutes or aprons. The bins are surmounted by a double gallery, along each side of which extend the bucket conveyors as they pass over the tops of the bins to which they distribute the coal.

Each of the two hopper tracks is provided with two 30-ft. concrete hoppers, one track being used for cars containing anthracite coal and the other for cars containing bituminous coal. The hoppers of each track are directly opposite each other and are used in pairs, one pair serving each of the two similar machinery installations, either of which can be operated as a distinct unit. When two kinds of coal are being used together, the coal is dropped from the hoppers on to standard 30-in. Jeffry plate feeders which feed from the outside toward the center and deliver the coal to a 30-in. by 30-in. single roll crusher of the same make as the feeder. These feed-

ers are so constructed and arranged that each delivers a definite volume of coal at each stroke. Thus by regulating the number of strokes of one feeder in relation to the number of strokes of the other, it is possible to secure a uniform delivery of each class of coal to the crusher in any desired proportion. This regulation is obtained by driving each of the feeders through a Reeves variable speed transmission, the two transmissions being driven in turn by the crusher. The power for this entire mechanism in each of the two installations is furnished by a 40 hp. electric motor.

The coal received at this station consists of rice anthracite and mine run bituminous, which are used most commonly in the proportions of 20 per cent anthracite and 80 per cent bituminous, and of 50 per cent anthracite and 50 per cent bituminous, depending upon the season of the year. However, any desired mix can be secured up to 10 per cent anthracite and 90 per cent bituminous. The actual mixing of the coal is done in the crusher, the two classes being delivered uniformly to it in the proper proportions. The bituminous coal is broken up into whatever grade is desired, the anthracite simply mixing and passing through with the bituminous. This arrangement has been found to give thoroughly intimate mixing with the result that it has been possible to utilize a larger proportion of anthracite, with a considerable saving in fuel cost, since this installation has been made. On leaving the crusher, the coal passes directly below to a rotary filler which is so synchronized with the pivoted bucket conveyor that it fills each bucket to approximately 97 per cent of its capacity.

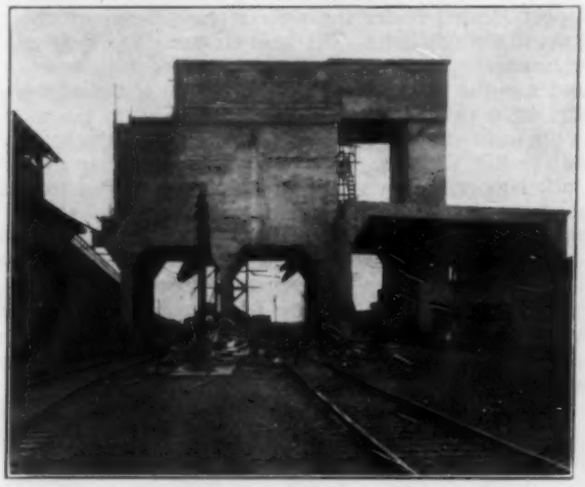
The pivoted bucket conveyor used in each machinery installation of the coaling station is of the continuous type, passing down and around the rotary filler, then up a tower and across the gallery over the bins and returning to the filler. The buckets are dumped at the proper bins by hand-set trips which are located at each bin and which are set to the proper position by one of the station attendants. In case it is desired to use either of the two classes of coal straight and without passing it through the crusher, a special by-pass gate, which is located in the base of the track hoppers and operated by a rack and pinion, may be opened, permitting the coal to move directly from the hoppers to the rotary filler.



The Complete Station has Capacity for Handling 225 Tons per Hour

The rotary filler consists of a cylinder operating on a horizontal axis and fitted with a discharge opening in its side. The cylinder is rotated or driven by a large sprocket which engages the links of the pivoted bucket conveyor and is of such size that during one revolution it will collect coal to the approximate capacity of the conveyor buckets. Thus, as a bucket comes along the cylinder is rotated, cutting off the flow of coal to it, further rotation causing it to discharge its contents into the buckets. This permits the accurate transfer of coal without waste or spilling.

Each conveyor system consists of an endless chain to which 100 buckets are suspended at intervals on bearings that permit the buckets to maintain the same position regardless of the direction of travel, whether vertical or horizontal. These buckets each have a capacity of 250 lb. of coal.



The First Unit of the New Station, with the Old Coal Dock at the Left

In supplying coal to locomotives, the coal is drawn from each bin through a rectangular opening in the bottom, in which is supported a unit acting as a combined measuring device, cut-off valve and chute. This consists of a metal chute of the undercut type, pivoted to a short throat or discharge lead from the bins. The chute is free to rotate through an arc ranging from an angle of approximately 60 deg. above the horizontal to about 45 deg. below, the movement being controlled by a crank action operated by two air cylinders. When the chute is in its upper position the coal is free to flow from the bin to the chute, but when it is lowered, the flow of coal is cut off automatically. The design of this arrangement is such that each chute delivers one ton of coal each time it is lowered into position for loading a locomotive tender. The action of the chutes is controlled by valves situated on the supporting columns of the coaling station, within easy reach of the coaling platforms, or in emergency the chutes can be operated by hand.

In order to prevent the clogging of the opening at the base of the bins through freezing, two small steam radiator units have been installed in each opening. These are protected from falling coal and from clogging up by being located under protecting aprons. This is believed to be the first station to be equipped throughout with such measuring valves, which permits an accurate check of the coal taken by each locomotive, regardless of the track it is being drawn from or the number of locomotives that may be taking coal at the same time.

Adequate Facilities for Handling Sand

The sand storage, elevating and drying facilities are housed in a concrete unit at the end opposite the coal

hoppers. This unit consists of a double shaft extending from below the ground level to a point some distance above the station proper. One of the shafts encloses a ½-ton skip hoist which is used for elevating the wet sand. The other shaft forms the main storage for wet sand and has a capacity for approximately 300 tons. The main purpose of this type of wet sand storage container is to provide a unit of large capacity, occupying little space, and one which will not allow the sand to become frozen during the winter months.

The sand received at the station is delivered to a track hopper located under the second track, from which it flows to the skip hoist. The hoist elevates to an overhead intermediate storage room which serves mainly as a feeder to the sand driers, or direct to the wet sand storage shaft. When it is necessary to draw on the sand in the main storage, the opening of a gate at the bottom will permit the flow of sand into the chute from the track hopper, by means of which it is conveyed to the hoist for elevation to the intermediate wet sand storage room.

The sand hoist is operated automatically on vertical guides by a 5 hp. motor, and without attention, receives a specific load below the track hopper and empties it into either of the bins above.

Drying of the sand is accomplished by three steam-operated, coil pipe units which are located in a room directly under the intermediate wet sand storage room, the wet sand being fed to the driers by gravity. After passing through the driers and screens, the dry sand falls by gravity to a dry sand storage bin of 100 tons capacity, located directly beneath the driers. From here it is fed by gravity through three main feeder lines to the six tracks.

With the elevating of coal and sand being done automatically after once being started, the various operations taking place within and about the station are completely in charge of unskilled labor. Under normal conditions the force employed consists of two men on each of three shifts, loading tenders and sanding engines, and from three to five men on each of two shifts unloading coal and sand, greasing the machinery, and doing such other work as is found necessary.

Station Was Built in Two Sections

The new coaling station at Rutherford replaces in the same location an old timber coaling dock, approached by a long inclined frame bent trestle for spotting the loaded coal cars above the storage bins. The necessity for keeping this old coaling facility in service until the new station could carry a full load for coaling all of the locomotives at this point, made it necessary to build the new station in two units. The first unit completed consisted of only four bins which were made to serve four tracks through eight chutes, but, being served by the complete operating machinery, this section of the station coaled an average of 129 locomotives in 24 hours. This continued over a period of practically a year while the old coal dock was being removed and the remaining section of the new station was being constructed. While this called for intensive operation, it was accomplished without a mishap or a serious engine delay. Since the completed station was put in operation in January, 1926, the situation at this point has assumed normal proportions, and all indications point to the most satisfactory operation.

The station at Rutherford was erected under the direction of the engineering department of the Reading, S. T. Wagner, until recently chief engineer, and Clark Dillenbeck, then assistant chief engineer. The work in the field was in charge of C. H. Hitchcock, assistant engineer. The station was designed and constructed by C. W. Hunt Company, Staten Island, N. Y., which company also supplied its own equipment for the elevating and conveying machinery and the coal measuring valves.

The Old Frame Coal Dock Which Gave Way to the New 2000-Ton Concrete Coaling Station

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A SPECIAL COMMITTEE of the Nebraska legislature is endeavoring to secure a law permitting the railroads to appeal to the district courts and the supreme court of Nebraska in tax litigation instead of going to the federal courts. The committee also is making an effort to obtain the enactment of legislation which allows the tax valuations to be based upon the gross income of the railroads.

Wheeling & Lake Erie Changes Control

Majority interest acquired by trunk lines — Baltimore & Ohio secures 35 per cent of Western Maryland stock

RECENT excitement in the stock market relative to Wheeling & Lake Erie and Western Maryland was explained in part at least in statements made on Monday that large blocks of stock in these companies had been acquired by the New York Central, the Baltimore & Ohio and the Van Sweringens.

A. H. Harris, vice-president and chairman of the finance committee of the New York Central, who issued the statement for his company, said that the New York Central had acquired 95,000 shares of different classes of Wheeling & Lake Erie stock. He added that the "purchases of the 6 per cent non-cumulative preferred and common stock were made before the recent advances in the market."

The Baltimore & Ohio statement issued by George M. Shriver, senior vice-president, was to the effect that this road had acquired a sixth interest in Wheeling & Lake Erie and also 144,000 shares of Western Maryland preferred stock formerly held by the Rockefeller interests which with other stock purchased in the market some time ago gives the Baltimore & Ohio over 35 per cent of the outstanding Western Maryland stock.

Coincidentally, a statement was authorized by M. J. Van Sweringen to the effect that "the Nickel Plate has over a period of time purchased in excess of 95,000 shares of Wheeling & Lake Erie stock, composed of common, preferred and prior lien shares, the prior lien shares having been acquired from the Rockefeller interests."

There are still rumors that Frank E. Taplin, president of the Pittsburgh & West Virginia, has also acquired from 50,000 to 80,000 shares of Wheeling & Lake Erie.

The Wheeling & Lake Erie has outstanding 118,826 shares of prior lien stock which has the privilege of electing a majority of the board of directors as long as dividends are in arrears; 103,450 shares of preferred and 336,413 shares of common. Except for the special rights of the prior lien stock resulting from accrual of dividends amounting to over 70 per cent the three issues have equal voting power. The three issues total 558,689 shares, so that the New York Central and Van Sweringen acquisitions of 95,000 shares would each slightly exceed one-sixth. Inasmuch as the Baltimore & Ohio has acquired a sixth interest that would give the three carriers combined a majority interest in the Wheeling & Lake Erie.

In the case of the Western Maryland, the number of shares outstanding totals 177,420 shares of first preferred, 99,990 second preferred and 494,261 common, or a total of 771,671. This means that the Baltimore & Ohio's holdings acquired from the Rockefeller interests or purchased elsewhere would, to constitute 35 per cent, total about 270,000 shares. All three issues have equal voting power.

Bought to Keep W. & L. E. from Loree

The general impression is that the acquisition of a joint interest in the Wheeling & Lake Erie indicates the establishment of a new community of interest between the New York Central, the Nickel Plate and the Baltimore & Ohio. The idea, thus, is similar to the one which the executives of these three systems and of the Pennsylvania attempted to formulate in the fall of 1924. On that occasion the four roads desired to work out a plan of allocating the roads in the eastern district among these four systems. The allocation made was such as to meet with determined opposition on the part of the Pennsylvania and much is now being made of the fact that the Pennsylvania is not included as one of the joint purchasers of the Wheeling & Lake Erie.

The plan of allocating the eastern roads tentatively formulated in 1924 also met with the determined opposition of L. F. Loree, president of the Delaware & Hudson whose counsel had not been sought. Mr. Loree later presented a plan of his own for a new fifth trunk-line system which included both Wheeling & Lake Erie and Western Maryland. He later began to follow out the proposal to establish such a new fifth trunk-line system to the extent of having the Delaware & Hudson lease the Buffalo, Rochester & Pittsburgh and he is said to have acquired a large interest in Lehigh Valley both of which properties were allocated in the trunk line proposals to the New York Central. Mr. Loree has denied that he has acquired any interest in Wheeling & Lake Erie but it is supposed that the purchase of control of that property by the New York Central, Baltimore & Ohio and Nickel Plate is a strategic move on their part to checkmate Mr. Loree's ambitions.

There is, further, much comment about rival banking affiliations. The bankers for the New York Central and the Nickel Plate are J. P. Morgan & Co. and the First National Bank whereas the bankers for Mr. Loree and the Pennsylvania are Kuhn, Loeb & Co. Those who see in the situation a struggle for supremacy between the rival bankers find it difficult, however, to explain the Baltimore & Ohio's affiliation on the side of the New York Central and Nickel Plate. The Baltimore & Ohio did its recent refinancing through Kuhn, Loeb & Co. and Speyer & Co. One explanation given of the Baltimore & Ohio's going in with the Central and the Van Sweringens is its equal interest with the New York Central in the Reading. The supposition is that the New York Central has agreed to let the Baltimore & Ohio have the Reading in return for co-operation in other matters.

Inquiry has thus far been fruitless of more explicit information than the foregoing suppositions as to the reason why the three trunk line carriers joined in acquiring control of the Wheeling & Lake Erie. It has been said that the New York Central and Nickel Plate would benefit from the improved access to the Pittsburgh No. 8 coal field which the Wheeling serves, and from the terminal belt line of the Wheeling at Toledo. The Wheeling comes into Cleveland to a point alongside the new Union station development. No doubt its access to Lake Erie at Huron would prove helpful and it is likely that much lucrative traffic is to be secured from the several industrial sections that it serves, notably in the

neighborhood of Canton and along the Ohio river south of Steubenville. It is believed, however, that the chief benefit to the New York Central and Nickel Plate will be to protect a strategic position in future consolidation proceedings in this territory.

In the case of the Baltimore & Ohio the benefits expected to accrue from its interest in Wheeling and Western Maryland seem to be much clearer. Vice-president Shriver's announcement of the acquisition of the stock included the following explanation:

"The Baltimore & Ohio maintains extensive interchange agreements with both these railroads, especially with the Western Maryland, with which we interchange practically 40 per cent of all its business and 60 per cent of all its business interchanged with other railroads. Because of these agreements and because of the expedition and increase of traffic which will undoubtedly ensue from their operation, the Baltimore & Ohio deemed it advisable to participate in the buying of stocks of the roads. The Wheeling & Lake Erie is to be used by the New York Central, the Nickel Plate and the Baltimore & Ohio as a neutral terminal and industrial line. Under the four-system plan which was submitted to the Interstate Commerce Commission in 1925 it was suggested that the Western Maryland be allied with the Baltimore & Ohio, but such a move is not being presently contemplated, although it may be assumed that general consolidation of railroads is being looked to in the future. The Baltimore & Ohio has no present purpose of adding to its holdings in either of these railroads."

One of the explanations of the large interchange of business between the Baltimore & Ohio and Western Maryland is the fact that the Baltimore & Ohio routes a large proportion of its coal traffic to Philadelphia, New York and New England over the Western Maryland between Cherry Run and Shippensburg and thence over the Reading.

There is a legal complication with reference to the acquisition of Western Maryland shares by the Baltimore & Ohio. As noted in an article on the Western Maryland which appeared in these columns last week, the Western Maryland was formerly owned by the City of Baltimore and was sold to a syndicate consisting of the Goulds and others in 1902. The ordinance relative to that sale contains a proviso reading, "That no title shall vest in the purchaser or purchasers of stock of the Western Maryland Railroad if sold to a railroad company now controlling, owning or operating any line or system of lines centering, terminating or operating in the cities of Baltimore or Philadelphia. . ." How much of a bar this may prove to be is, of course, a question.

Effect on Stock Market

It is presumed that in acquiring their interest in Wheeling & Lake Erie the three trunk lines co-operated. Their statements said that they acquired their common and preferred shares before the spectacular rise in the prices of these stocks. It is not known at what stage in the situation the stock of either the Western Maryland or the Wheeling & Lake Erie stated to have been acquired from the Rockefellers was so acquired, at what stage control of the two roads passed from the hands of the Rockefellers or what was the price paid the Rockefellers.

It is plain, however, that the withdrawal of the Wheeling & Lake Erie stock from the market was the reason for the near corner in that stock on the New York Stock Exchange due to the manner in which it reduced the supply of stock available for trading. The situation with reference to stock of both Wheeling & Lake Erie and Western Maryland has as a matter of fact exceeded in excitement any instance at all similar in the history of the New York Stock Exchange, excepting possibly the Northern Pacific corner of 1901. Among the peculiar features has been the way in which interest has been carried to rail stocks generally, there having been for the past two or three weeks extremely heavy trading in a large number of railroad stocks, particularly in the low priced shares of the smaller roads, with resulting great advances in the prices of these issues.

It was the Wheeling & Lake Erie which broke all the previous records for excitement. The common stock of this company during the week ended February 5 rose 24 points, closing the week with a price of 84. On Monday it rose to 95. On Tuesday it reached a new high of 130 but fell off to a closing price of 105, this wide movement being made with sales of but 5,500 shares. During the excitement holders of the preferred stock which supposedly has a privilege of conversion into common stock, presented some of their stock to the transfer agents only to discover that there was no common available for conversion and that the transfer agents had no authority to make the conversion anyway. On Monday, the directors were hurriedly called together and following their meeting a statement was issued saying, "The board of directors at its meeting this morning adopted a resolution authorizing conversion of prior lien and preferred stock into common stock subject to the approval of the Interstate Commerce Commission and the Public Utilities Commission of Ohio." Inasmuch as there was no guaranty that sufficiently prompt steps could be taken to relieve the situation as it now exists, this did not help matters greatly.

The remarkable increase in the price of the Wheeling & Lake Erie common stock has, as previously noted in these columns, proved extremely severe on the short interest which is said to have lost several million dollars since the present excitement began. This was accentuated on Monday to such an extent that there were variations of 5 points between sales. As the price rose to 95, there was a desperate scramble to secure stock to deliver on short sales with the result that the loaning rate rose to $2.00 a share, $3.00, $5.00 and so on to $7.00, the highest rate on record since the Northern Pacific corner in 1901. This means that it cost $700. to hold 100 shares overnight or in other words the trader who had sold short 100 shares and desired to hold that position would have to borrow shares at a cost of $700. In the Northern Pacific corner it is said that the loaning rate at one time rose to $700. At about the time the price reached $1,000 the Stock Exchange authorities stopped the trading. The remarkable increase in the price of Wheeling & Lake Erie shares is shown by the fact that on January 3 the price of the common stock was 27½. The preferred which sold on January 3 between 47¾ and 49½ closed on Tuesday at 83, touching 93 during the day.

The Western Maryland preferred also has a conversion privilege into common and it is understood that the Bankers Trust Company is ready to make conversions as soon as authorized by the Stock Exchange authorities so to do.

One of the several complications of the situation is to determine whether the acquisition of stock by the three trunk lines is the whole explanation of it or if there has also been a complicated stock market manipulation. Probably the latter has followed the former.

Other Rail Shares Affected

The fortunate feature is that there has been a salutary interest in rail shares generally. Under former conditions when rail shares were less popular the effect would probably have been the opposite. The effect on other rail shares has been in the form of heavy trading and substantial rises in prices.

Some of the roads in which unusual interest has been shown are given in the following table. The list given includes only those issues in which trading totaled at least 70,000 shares on the New York Stock Exchange

for the week ended February 5. The table shows the number of shares traded during the week, the closing price at the end of the week and the net change from the closing price of the preceding week. All of the issues shown are common stocks with the single exception of Western Maryland second preferred.

Stock	Sales	Closing price February 5	Net increase in price during week
Chicago Great Western	93,600	12⅜	2⅞
Chic., Rock Island & Pac.	111,700	74¾	¾
Erie	93,700	45¾	3⅛
Missouri Pacific	119,900	45⅛	4⅜
N. Y., N. H. & H.	439,400	50½	5¾
N. Y., Ontario & W.	99,500	30⅛	4⅜
Reading	107,900	103⅝	6½
Wabash	308,500	57⅛	12⅜
Western Maryland, Com.	521,600	37½	11⅜
Western Maryland, 2nd Pref.	106,500	37⅞	8⅞
Wheeling & Lake Erie	72,900	84	24

The sales of Western Maryland common which totaled, as shown in the table, 521,600 shares for the week ended February 5 followed sales in the week preceding of 305,300. The sales of 521,600 shares of Western Maryland common represented more than a 100 per cent turnover of the shares of this issue outstanding; the total amount issued is only 494,000. Even the total sales on Monday and Tuesday of this week alone—464,900—almost reached this total. The closing price on this stock on Tuesday was 39½.

By Wednesday the upward movement in prices had been checked. On that day Wheeling & Lake Erie common opened at 105, fell during the day as low as 66¾ but later rose to a closing price of 90, all of which took place with trading totaling only 4,800 shares. Western Maryland common had sales totaling 131,400, dropped in price to as low as 25 and closed at 29½ a net loss from the preceding day of 10 points. There was heavy trading in other "merger" stocks with declines in prices.

Valuation Progress

FROM June 30, 1926, to December 31, 108 final valuations were issued, bringing the total to the latter date to 410, according to a statement issued by Frederick H. Lee, secretary of the Presidents' Conference Committee on Federal Valuation. Of these 410 reports 238 cover the properties of carriers which did not protest against the tentative valuation and 61 reports cover property of carriers which either filed a protest or failed to enter an appearance at the date assigned for hearing or presented no evidence or brief in support of their objections or claims, in which case the tentative valuation has been made final by order of the commission.

The final values of the "used" properties covered by these 410 reports is shown below:

	Tentative and Supplemental Tentative Valuations	Final Valuations	Net Increase or Decrease
Total cost of reproduction new	$623,600,801	$625,149,568	+$1,548,767
Total cost of reproduction less depreciation	501,899,064	503,521,334	+1,622,270
Total present value of land, including rights	74,553,149	74,912,524	+359,375
Total final value	631,045,584	622,246,293	—8,799,291
Total working capital	21,255,958	12,654,447	—8,601,511
Total final value less working capital	609,789,626	609,591,846	—197,780

There are also about 75 additional cases in which tentative valuations have become final by reason of the failure of the carriers to file a protest within the statutory period of 30 days after the service of the tentative valuation and it is expected that the commission will make these valuations final. The total final value reported for these companies is less than five per cent of the total of all carrier property thus far either finally or tentatively determined by the commission, including about 2,000 miles of road or about one per cent of the total mileage to be covered by the valuations, viz., 244,377 miles of road.

Between June 30, 1926, and December 31, the commission served 91 tentative valuations, bringing the total number of valuations served to December 31 to 931. Among the tentative valuations served during the last six months are those on the following:

A. C. L.	L. H. & St. L.
C. & A.	Morgan's L. & T. R. R. & S. S. Co.
C. & E.	
C. & N. W.	N. Y., C. & St. L.
D. T. & I.	Penna.
D. L. & W.	P. & R.
E. P. & S. W.	P. B. & W.
G. H. & S. A.	S. P. & S.
G. M. & N.	T. & O. C.
H. V.	Wabash

With the service of these reports the commission had issued tentative valuations on all of the Class I carriers prior to December 31 with the following exceptions:

Eastern Group:
- Baltimore & Ohio
- Cincinnati, Indianapolis & Western
- Erie
- New York Central
- Pittsburgh & Lake Erie
- Staten Island Rapid Transit
- Western Maryland

Southern Group:
- Alabama Great Southern
- Cincinnati, New Orleans & Texas Pacific
- Coal & Coke
- New Orleans & Northeastern.
- Seaboard Air Line
- Tennessee Central

Western Group:
- Chicago, Milwaukee & St. Paul
- Chicago, Peoria & St. Louis
- Denver & Rio Grande
- Kansas City, Mexico & Orient
- Kansas City, Mexico & Orient of Texas
- Missouri Pacific
- Northern Pacific
- Northwestern Pacific
- Oregon Short Line
- St. Joseph & Grand Island
- Southern Pacific
- Union Pacific

The final and tentative reports served are summarized as follows:

	Number of Valuations	Number of Corporations	Miles of Road	Per cent of Total Mileage (244,377 miles of road)
Final Reports				
Final by decision and order	410	462	17,065	6.9%
Final and Tentative Reports				
Served	931	1,419	181,928	74.5%
To be served	199	581	62,449	25.5%
Total	1,130	1,800	244,377	100.0%

The Cost of the Work

The House Committee on Appropriations has included in its appropriation bill an item of $2,563,214 for the Bureau of Valuation, an increase of $1,135,254 over the amount available for 1927. Since the inception of this work in 1913 the total sum of $30,725,294 has been appropriated. In its report to the House the committee stated that:

> The estimate of the Budget ($1,306,325) for the valuation of the property of carriers was the amount necessary to complete the three-year program of primary valuation work. Further expenditures must be made, however, to bring this valuation to date, and after careful consideration, the committee recommends an appropriation of $2,563,214 for the fiscal year 1928. Of this sum $1,306,325 will be expended for the primary valuation work, and the remainder will be applied to the policing of carriers' accounts,

and recapture work, as well as to the bringing of valuations to date. It is estimated that all valuations can be brought to date within three years, or by the end of the fiscal year 1931, at an estimated cost of $7,500,000, of which this appropriation forms a part, after which time appropriations for the Bureau of Valuation will be approximately $500,000 per annum."

During the year ended June 30, 1926, the carriers reporting to the Presidents' Conference Committee expended $7,826,763 in valuation work, bringing the total amount expended by these carriers for the 13 years ending June 30, 1926, to $91,755,158. During the year ending June 30, 1926, the Bureau of Valuation spent $1,593,830, bringing its total expenditures up to $28,256,027.

Western Class Rate Hearing

A REQUEST for a six-day traffic test to ascertain the increase in revenue that would be produced by the new class rates proposed in the western trunk line territory, made by M. J. Healy, general counsel for the Kansas State Public Utilities Commission, was the most important development at the hearing before representatives of the Interstate Commerce Commission on the application of western carriers for an adjustment of class rates in western trunk line territory which began at Omaha, Neb., on January 25 and ended on February 5. Commissioner McManamy directed the shippers, state commissioners and carriers to state their attitude relative to such a test in writing with the Interstate Commerce Commission at Washington, D. C., by February 9, so that the commission can act on the request.

The failure of interested parties to understand the application of proposed rates resulted in a request from Mr. Healy for more specific information regarding the way in which the new rates will be applied. The carriers were then ordered to give specific class rates from a number of large shipping points to destinations between which there are both long and short hauls. The carriers were directed to submit the freight rates which they would apply, (1) from Kansas City to all stations on the Atchison, Topeka & Santa Fe and the Missouri Pacific in Kansas; (2) from Omaha to all stations on the Chicago, Burlington & Quincy and the Chicago, Rock Island & Pacific in Nebraska; (3) from St. Louis to all stations on the Burlington and the Wabash in Missouri; (4) from Chicago to all stations on the Chicago & North Western and the Chicago, Milwaukee & St. Paul in Wisconsin; (5) from Chicago to all stations on the Chicago Great Western and the Rock Island in Iowa; (6) from St. Paul and Minneapolis to all points on the Chicago, Milwaukee & St. Paul and the Great Northern in South Dakota; (7) from the Twin Cities to all points on the Great Northern and the Minneapolis, St. Paul & Sault Ste. Marie in North Dakota and Minnesota; (8) from Omaha to all points on the Union Pacific in Colorado, and from Kansas City via the Union Pacific to Pueblo, Trinidad and Denver; and (9) from Omaha to all points on the Burlington in Wyoming.

E. B. Boyd, chairman of the Western Trunk Line Committee, in explaining the application of the proposed rates, stated the eight conditions on which rates would be computed:

(1) The short single line mileage will be used unless by the combination of not to exceed three lines, the short single line mileage can be reduced by more than one mileage block, in which case such combination mileage will be used.

(2) Where there is no single line between origin and destination, the combination mileage over two lines will be used or a combination mileage over three lines will be used when such mileage reduces the two-line mileage by more than one mileage block.

(3) When more than three lines are required to reach destination, only such additional lines as are necessary will be used in computing a combination mileage.

(4) Combination mileages will be computed only via junction points where there are track connections for the interchange of carload traffic without lading transfer.

(5) Lines under one management or control will be construed as one line.

(6) Where in a combination mileage a single line is used more than once it will be construed as a separate line each time it is so used.

(7) In computing combination mileages, only the regular and serviceable routes over which traffic ordinarily moves will be used.

(8) Through inter-territorial mileages between groups east of the western boundary line of Scale 1 territory (St. Louis, Mo., Kansas City, Omaha, Neb., Sioux City, Ia., Sioux Falls, S. D., Worthington, Minn., Minneapolis and Duluth) and points west thereof, will be the lowest combination of mileages through any one gateway located on said boundary line, the mileages to and from the gateway to be computed in accordance with Rules 1 to 7, inclusive. When shorter through mileages can be computed via other routes in accordance with Rules 1 to 7, inclusive, they will be used.

F. R. Dick of Roosevelt & Son, New York, testified that large eastern investors have adopted a policy of "hands off" regarding the securities of western trunk line railroads. Until the class freight rate schedule is adjusted to give the mid-western lines more revenue to enable them to guarantee a fair return on their securities the bulk of eastern investments will continue to be in other securities. He said that an exhaustive study conducted by the "security holders' committee for a fair return" disclosed the fact that the railroads of this mid-western group are having to sell their service at about one-half the price which the railroads of the southern and southwestern group are enabled to charge.

He said that whereas the southwest group earned 151.5 per cent of their 1915-16-17 income in 1925 and the southern group 175.1 per cent, the mid-western group earned only 77.5 per cent, the prospect for 1926 being about 10 per cent higher. The eastern group of carriers earned 132.1 per cent of their "test period" income in 1925. Mid-western carriers in 1911-12-13 were enabled to earn $2.06 for every $1 of interest they had to pay, whereas in 1923-24-25 they earned only $1.40.

L. E. Wettling, statistician for the western carriers, testified that 67,593 miles of 20 systems were included in the western trunk line territory and this represented 51 per cent of the total mileage of the systems. The total investment of the properties in 1925 was $7,527,936,347, with a net railway income of $316,211,734, or 4.68 per cent. The density of traffic east of the Missouri river, for the three groups, was given as 1,457,952 tons one mile per mile of line eastbound as compared with 920,673 tons westbound. A comparative tabulation of traffic density in the different territories showed that the western density was 1,074,784; the southern district, 2,096,920; the eastern district, 3,040,645; and the average for the United States 1,756,593 ton miles per mile of road.

The hearing will reconvene at Kansas City on April 7 when shippers will cross-examine the representatives of the carriers who testified at Omaha. Subsequent hearings will be held at St. Joseph, Mo., Lincoln, Neb., Omaha, Fargo, N. D., Minneapolis, Minn., and Duluth.

Observation-Lounge-Dining Car for Boston & Maine

An interior decorator selected the colors for the lacquer finish, draperies and rugs

ON May 15, 1926, the Boston & Maine inaugurated the Minute Man, a fast passenger train which runs from Boston, Mass., to Troy, N. Y., where it connects with the Lake Shore Limited of the New York Central. The equipment on the Minute Man consisted of the best available, but still it was felt that improvement could be made which would make travel on this train more attractive. W. O. Wright, general passenger agent of the railroad, conceived the idea of building a car, so finished in the inside that it would represent, as nearly as possible, the interior decorations found in the rooms of a well-appointed home. Mr. Wright suggested his ideas to C. E. Barba, mechanical engineer, who at once saw the possibilities of building a car of this type.

It was agreed that in order to secure the most attractive blending of colors, it would be necessary to secure the advice of an expert interior decorator. The services of H. Ledyard Towle of New York, chairman of the Dupont color advisory service, were secured. Under his direction the color scheme for each section of the car was carefully planned in every detail.

Two cars, which were formerly club-cafe cars, were

The Observation Lounge Is Provided with 16 Wicker Leather Upholstered Chairs

rebuilt into observation lounge dining cars at the Billerica shops of the Boston & Maine. The Concord, the first of the two cars to be completed, was put in service on January 17, 1927, operating out of Boston one day and on the eastbound trip the next. The new service was placed on a daily basis February 8, when the second car, the Lexington, was completed.

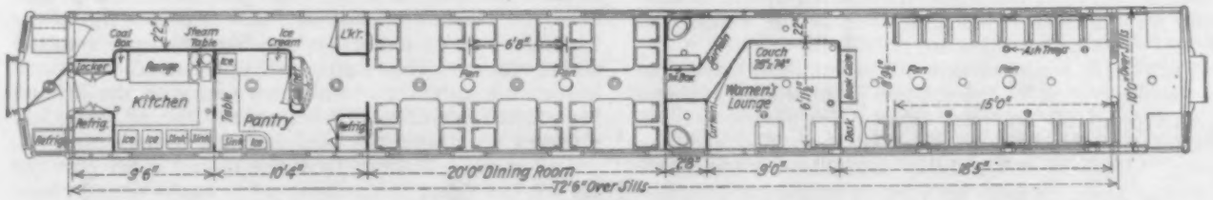
Changes in Construction

The principal change in the construction of the club-cafe cars was that the passenger compartment was

The Decorations of the Ladies' Lounge Are in Old Rose and Gray

changed to a club-observation and a women's lounge. Room is provided on the observation platform for six folding chairs. Two large windows and a door, which are fitted with bevelled-edge prismatic glass for clear vision, form the partition between the observation platform and the club compartment of the car. This compartment is provided with 16 large wicker chairs, eight on each side of the car; a 12 in. by 43 in. bookcase, and a writing desk and chair. An aisle, 22 in. wide, leads from the club compartment to the women's lounge, men's washroom and the dining room. The women's lounge is 6 ft. 11 in. wide and has a maximum length of 9 ft. It is provided with a couch 28 in. by 74 in. and two wicker chairs. A curtained opening leads into the ladies' wash room.

The dining room is 20 ft. long and 8 ft. 9½ in. wide. Six tables, each accommodating four guests, are placed three on each side of the dining room. This room is lighted by three ceiling center line lights and six deck



Floor Plan of the Boston & Maine Dining and Observation Car

lights. There are two ceiling fans placed in the room.

The only important change made in the kitchen is that the refrigerator space has been increased by placing a refrigerator in the vestibule at the rear of the kitchen, which has eliminated one of the vestibule doors. This refrigerator may be entered from the platform or from the kitchen. The kitchen is painted with brush lacquer.

Interior Decorations

The usual practice followed when decorating the interior of a passenger car, is to use the same color combination throughout the car. As a result, the passenger,

Each Table in the Dining Room Seats Four Passengers—The Draw Curtains Are a Distinctive Feature of the Decorations

when going from one section of the car to another, always sees the same decorations. This is not true when passengers go from one room to another in their homes. Therefore, it was decided to have a different combination of colors for each section of the car. As far as practicable, the Colonial period was followed in the furnishings and decorations.

The open-air observation platform is under a striped visor which is somewhat more colorful than the few others of this kind already used on B. & M. trains. A large center dome light illuminates the platform at night. A highly polished brass rail runs around the end gate of the car. Attached to the gate is an illuminated sign showing the name of the train.

The observation lounge catches the eye as something entirely new and different. The floor is covered with a heavy nap, heather brown Wilton rug, The side walls up to the moulding are finished in Revere brown. The remainder of the walls and ceiling are Lexington cream, trimmed with a narrow emerald green stripe. The sixteen air cushioned chairs are upholstered with a brown leather in harmony with the lacquer colors. The car is provided with a bookcase, magazine rack, writing table and chairs and six collapsible tables, all of which are designed after furniture of the Colonial period. For reading purposes, the car is illuminated by six double-unit wall bracket lights and three ceiling center line lights. Two ceiling fans are provided.

Each car is equipped with six pedestal ash trays, four in the observation lounge and two in the women's lounge. This type of ash tray was selected for several reasons. Cuspidors are usually provided in a smoking compartment. Experience has shown that a smoker locates the cuspidor and then flicks his ashes in its general direction. The result is that most of the ashes go onto the floor. On the other hand, the smoker can accurately locate the pedestal type of ash tray. Each ash tray is conveniently provided with a box of matches. It has large capacity and cannot be upset.

The floor of the corridor leading from the observation lounge to the dining room and ladies' lounge, is covered with a heather brown runner rug. The walls of the ladies' lounge are a lacquer combination of London smoke grey trimmed with an old-rose stripe, and the ceiling is of Lexington cream trimmed with an emerald green stripe. The floor is covered with a carpet in old-rose and London smoke grey. The wicker couch, which is provided with two large pillows and a bolster roll, and the wicker chairs are covered with heavy old rose and mulberry damask tapestry. The large window is provided with draw curtains of the same material. A large ceiling light is available when desired. A wash room, equipped with a nickel wash bowl, a mirror and light, is separated from the women's lounge by a heavy old rose tapestry curtain.

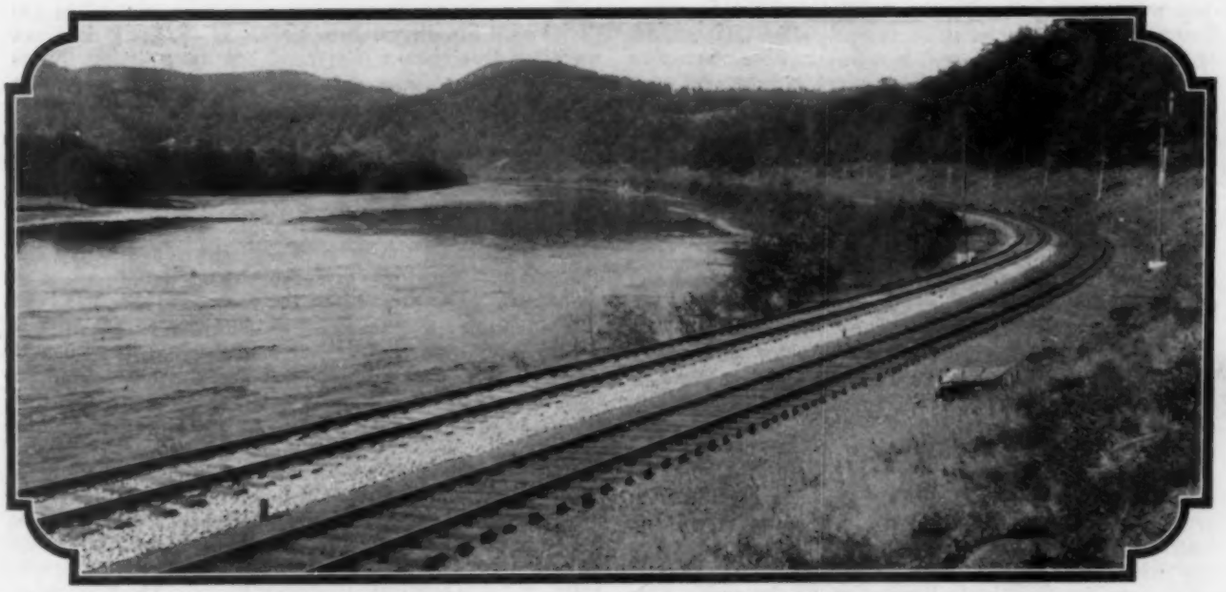
Directly opposite the door of the women's lounge is located the men's wash room which is also curtained off by a heavy gold and old rose tapestry.

The color combination in the dining room consists of a deep blue up to the plate rail, with the remainder of the wide walls and ceiling finished in Concord buff. No trim of any kind is used. The flooring consists of 6-in. square

The Observation Platform

blocks of ¼-in. Naturized reinforced rubber flooring, the colors of which produce a mottled effect often seen in a tile floor. The floor border consists of 5¼-in. square blocks of the same material as the main part of the floor. The heavy silk damask, old rose and blue draw curtains at the windows give an unusually homelike atmosphere to the dining room. The chairs are upholstered in brown leather. A new set of china service, with the Minute Man figure from French's statute at Concord, Mass., as a decorative theme, has been installed in both cars.

The corridor leading from the dining room past the kitchen is finished in the same colors as the dining room. The interior of the car is finished with Duco lacquers.



Should Track Like This Be Depreciated 50 Per Cent?

Depreciation—A Much Confused Term

A discussion of a subject which has not been "thought through to the end"

By Henry Earle Riggs

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NO single subject connected with the valuation of the physical property of railroads and public utilities is of greater importance than depreciation. It calls for clear thinking and sound analysis. Yet, strange to relate, the money, time and energy devoted to valuation during the past 15 years has been largely expended in the work of inventory, unit price studies and discussions of the proper allowances for overhead costs and interest during construction. Very little work has been done in the analysis of the unsound and confiscatory theory which had been developed in early appraisal practice and which has been followed by the Bureau of Valuation in the railroad valuations.

The main reason for this condition is undoubtedly to be found in the mass of conflicting theories, "methods" and formulæ which have been advanced, the lack of a set of clean-cut definitions, and the failure to grasp the idea that the word "depreciation" is today in general use to describe two radically different ideas or concepts. The resulting confusion and consequent failure on the part of many men employed in valuation work to understand depreciation or to realize its great economic importance, is likely to be disastrous, unless an agreement can be reached as to definitions of depreciation, a statement of fundamental principles, and the development of proper methods for computing it if it exists in a property.

In approaching a discussion of depreciation there are two or three things which must be kept constantly in mind. Unless one is constantly on guard in these matters the discussion leads to the inextricable confusion of the past, which is the very thing we must get away from.

First. The word depreciation has been used to describe two radically different things, i.e.:

(a) Depreciation of valuation, or a condition which may exist, and when it does results in loss of value which must be found and deducted in finding "fair value" for rate making. This is the sense in which the word has been used by the Supreme Court in the Knoxville Waterworks case and later cases.

(b) The words "depreciation," "accrued depreciation" and "theoretical depreciation" have been improperly used by accountants in connection with the use of the old principle of reserve accounting or the creation of reserves for the retirement or replacement of certain properties, or for the amortization of properties which definitely reach the end of life as a whole and cease to function. A reserve for replacement is a *maintenance reserve* and the use of the word depreciation in such case is wholly improper. A reserve for amortization is designed to restore to the owners capital invested in a disappearing property, hence the word "depreciation" is truly descriptive but its use is unnecessary.

The point to be emphasized here is that in discussing valuation we are dealing with the first of these two concepts, and we must not confuse it with the second. There is no connection between the two ideas. In a valuation

case we are compelled by the decisions of the Supreme Court to find *impairment of capital value* if it exists. If such depreciation exists it is a *fact* capable of reasonably exact determination. This must not be confused with a method for estimating the allowance to be credited to reserve, created out of charges to *operating expense*, a mere bookkeeping device designed to spread large and irregularly recurring replacements over a period of years so as to preserve a fairly uniform operating ratio year after year. The accounting problem must be put resolutely out of mind and barred from this discussion.

Second. If there is depreciation existing in a railroad property at any given time it is *the depreciation of the railroad as a complete operating property* which we seek, and not the depreciation of the minor consumable parts which must be used up and replaced as part of regular operating expenses. We must again carefully watch ourselves that we are not led into improper comparisons with properties not at all comparable with the *railroad*. It is interesting to note in many of the academic discussions of the subject of depreciation, in articles and in a few books, the tendency to illustrate statements of theory by reference to the private house, the private automobile or other small single property, or to consider the single locomotive as the unit. One author goes so far as to take a pair of shoes or an overcoat as illustrative of theories which would confiscate billions of dollars worth of property if the comparison were apt. The problem set before the valuator is to find the depreciation, if any, in the structure built to render the service of transportation, the *railroad, the composite property in its entirety.*

Third. Having excluded from the discussion of depreciation all reference to accounting methods for the establishment of operating expense reserves (the so-called, and improperly termed "depreciation accounting"), we must also bar the methods appertaining thereto. The only "life" involved is the life of the particular railroad under investigation. If it is an essential link in our great transportation system, we may very definitely and very properly say that its life is indefinite, continuing or perpetual. This being true, there is no connection between the value of the plant as a whole and the lives of its consumable elements which must be used up in the furnishing of transportation and replaced if that service is to be continued. In other words, granting freely that approximately one-half of the total expectation of tie life on a railroad has disappeared, that fact has no bearing at all on value or depreciation, as that is the very best condition in which the ties can be maintained. A proper study and inspection for the calculation of depreciation has nothing to do with tie life. It seeks to answer two questions. Are all of the ties functioning fully and giving the service they were intended to give? Is the company fully meeting all of its obligations to replace ties when they cease to function and replacing each year the total impairment accruing during the year?

This subject will be further discussed, but is here referred to because this question of depreciation is never going to be solved by people who stray off the main road and become confused by a mass of irrelevant detail.

Why Consider Depreciation?

Why need we consider depreciation at all? Why not take the stand that it is axiomatic that investment is entitled to a return so long as devoted to the giving of service, and that valuation under the rule of Smyth vs. Ames (which did not mention depreciation), fixes the amount of the investment which is entitled to earn a return?

The answer to these questions is to be found in the decisions. Smyth vs. Ames (169 U. S. 466) does not mention depreciation it is true, but after listing things that must be considered, says that all other matters that may be pertinent shall be considered. Knoxville Water Co. vs. Knoxville (212 U. S. 1) is the case which first definitely holds that "depreciation which has come from age and use" shall be deducted in a determination of cost of reproduction. In the Minnesota rate cases (230 U. S. 352) Justice Hughes said "and when an estimate of value is made on the basis of reproduction new, the extent of existing depreciation should be found and deducted." The doctrine of the Knoxville case has been reaffirmed so often that it may be accepted as the law of the land that no valuation is complete, and no rate base can be fixed, without finding and determining the extent of existing depreciation if any.

What Is Depreciation?

This being true the next question which must be considered and answered is "What is depreciation?" The definition must be limited to that thing which is to be found and deducted from "fair value" in compliance with the ruling of the courts. We are not now interested in some academic theory or in some ideal definition of something which in the past has been called "depreciation." We must, therefore, seek for the definition in the decisions dealing with this particular concept and no other.

The court has not given a definition, but all of the elements which must be included in the definition are to be found in the various decisions.

Depreciation is loss of value, impairment in value of the plant which remained in existence and were continued in use. (Knoxville Water Co. vs. Knoxville).

Depreciation is an abnormal condition, something that ought not to exist. "It (the company), is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years, the original investment remains as it was at the beginning." This statement is reiterated in the Knoxville case, and is further stated as the "duty" of the company.

Depreciation is something that is the fault of the owner. "If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, * * * the fault is its own." In the same paragraph it is referred to as "errors of the management."

Depreciation can be overcome by repairs and replacements of parts—"before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they come to the end of their life." (Knoxville Water Case).

"It is also to be noted that the depreciation in question is not that which has been overcome by repairs and replacements, but is the actual existing depreciation in the plant as compared with a new one. It would seem inevitable that in many parts of the plant there should be such depreciation, as for example in old structures and equipment remaining on hand." (Minnesota rate cases).

"The testimony * * * tended to support the conclusion that the amounts expended by the defendant during the years in question for repairs, renewals and replacements should and would have fully offset the depreciation in the various units, and that the defendant's railway and structures were, as a whole, maintained throughout the years in question in fully as good condition, and were of fully as great intrinsic value, as at the beginning

of the respective years." (N. C. and St. L. vs U. S. 269 Fed. 351) *Depreciation Estimates must be based on fact, not assumption.*

The deduction was not based on an inspection of the property. It was the result of a 'straight line' calculation based on age and the estimated or assumed useful life of perishable elements. * * * The testimony of competent valuation engineers who examined the property and made estimates in respect of its condition is to be preferred to mere calculations based on averages and assumed probabilities." (McArdle et al vs. Indianapolis Water Co. Decided Nov. 22, 1926).

The language of this latter case makes it clear that the foregoing deductions from the Knoxville case and other earlier cases are sound. Mr. Justice Butler says "then the present value of lands, plus the present cost of constructing the plant, *less depreciation, if any,* is a fair measure of value."

A definition of depreciation may be stated as follows. *Depreciation is impairment of the investment in plant, or loss of value, due to the failure of the owners to make the expenditures for repairs, renewals and replacement of parts, when such replacements were due, and economically justified.*

The measure, in dollars, of depreciation, is the cost of making good all past due replacement of parts, and of restoring the property to such a maximum condition of service efficiency as is required to transact properly the actual business of the railroad under investigation.

A study of the decisions of the supreme court leaves no doubt that *each case must be decided in the light of the facts in that case.* It is obvious that no general rule or formula can be established for determining depreciation that can be given general application. Each property must be studied in the light of its own facts. The kind of business, volume of business, amount of expenditures for maintenance, and all things that would affect such expenditures must be considered. No discussion of the subject of depreciation of property would be complete without some consideration of the structure under valuation.

The Railroad Is the Unit

In making a valuation of one of our systems of railroads the thing being valued is the *railroad*, not a lot of unfunctioning material such as ties, steel rails, frogs and switches, ballast, water stations, fuel stations, signals, roundhouses, stations, locomotives or cars.

Not one of the things mentioned has any value at all except as *part of the railroad*. There is no market for them except as they are in demand by railroads. There could be no conceivable use, other than railroad use, and it is obvious that, but for the fact that they perform a function in railroad operation, none of them would ever have been designed or built.

For the past 25 years we have been making valuations, and purely for convenience, using the classification of materials and labor prescribed in the accounting circulars. This is proper and convenient and makes for accuracy. Then we have considered these different accounts or the individual items of which they were made up, as *units of property*. This is wholly wrong. The true unit is the railroad.

There can be no possible doubt that a railroad is a structure, a plant, absolutely as distinctive, and as different from any other structure or plant as a cathedral, a beet sugar factory or a gas works. Any adult American citizen of intelligence can promptly identify any one of the four. Furthermore all railroad plants have the same characteristics. All are made up of way or road to operate on, equipment with which to operate, structures or facilities to enable operation to be carried on economically and safely, and structures or facilities made necessary by the fact that business must be transacted with the public.

The only reason for spending billions of dollars in building railroads was to create a plant for the manufacture of transportation, and it is that plant as a whole that is being valued. Clearly, therefore, any condition that may exist, which is normal, and which does not impair the usefulness or capacity of the plant, or which can be changed without in the slightest degree interfering with the operation of the property, is not depreciation. Any condition which is abnormal, which affects safety or reduces capacity, or which brings about inefficient operation is depreciation. This is what we are to find if we are to follow the instruction of the courts, a condition that effects the whole property.

The Life of a Railroad

This brings us logically to a consideration of "life." The theory adopted by the Interstate Commerce Commission holds that depreciation is that part of the useful life of certain elements of the property which has already expired.

Depreciation must be made good. The obligation assumed by the company when it accepted its franchise compels it not only to *build* a plant and *operate* it, but also to maintain it. This expired "life" must be taken out and replaced, *when it is necessary and economically wise to do so, not before.*

If the commission's theory is sound the part of the investment in plant represented by ties and fences and the like is half gone, because it can be mathematically proven that, on a perfectly maintained railroad, making every tie renewal as soon as it is due, one-half the expectation of the tie life has disappeared.

Assume the case of a great railroad, perfectly maintained, with an average of 3,200 ties per mile, and normal renewals of 200 ties per mile per year or 16 year "life." The "theoretical depreciation" is 3,200 tie-years per year. The replacement is 200 ties $\times$ 16 years equals 3200 tie years per year. When did this "theoretical" depreciation take place? How can the condition be restored? How, under such a theory, can "investment be kept intact, as it was in the beginning?" Elapsed life of materials or component structures which must be replaced is certainly not loss of value.

The writer is of the opinion that this whole subject must have careful and thoughtful analysis.

We have a record of actual expenditures for maintenance, kept under government supervision for 20 years. This is the best possible *record of facts* that can be found. No study of depreciation is complete that ignores the nature and extent of actual expenditures.

Years of life of consumable items of property is *not* the true measure. Cost per unit of service should be sought. How many thousand car or train movements are required to wear out rail? What is the true measure of locomotive depreciation? Surely not somebody's guess, or the same formula that may be used on a second hand automobile. There is no comparison between the complete property, the automobile, and the small fraction of the tractive power required to carry on the railroad's business that we call the locomotive. The true test is to be found in whether or not the railroad has, over a period of years, expended all that it ought to have spent per 1,000 locomotive-miles for maintenance, and whether it is, and has been, putting its machines in the shop as it should have done.

There must be a complete revision of our ideas on this subject of depreciation. New units must be deter-

mined. Standards of maintenance must be studied, and costs of keeping up to those standards found.

The correct analysis and determination of depreciation must give weight to the accounting records showing actual costs, the statistics of operation explaining the reasons for changing costs, the character of the traffic and all of the *facts* relating to the particular case in hand. With such a study, and with an inspection which is designed to schedule definitely the past due replacements and to estimate the amount of money that the management is justified in spending to bring the property to a proper condition for its own service, the information should be at hand which would permit the making of a correct estimate of depreciation.

It is probable that every property would find some things which it ought to do, but it is fair to say that on by far the greater part of the railroads of the country the percentage would be very small.

The work that has been done in the past logically leads to the query as to whether it might not better be called "confiscation," rather than "depreciation."

Los Angeles Co-operates in Grade Crossing Study

THE city and county of Los Angeles have undertaken to solve their grade crossing problem in a true spirit of co-operation between all the interests involved and in accordance with a definite and well organized plan. To this end there has been brought into existence an unofficial commission, with no legal status, which acts only in an advisory capacity, but to which all matters pertaining to street and highway grade crossings with the railroads is referred before any definite action is taken upon them by the officers having jurisdiction, or by the railroad commission of the state. The work of the commission has been so thorough that since it was formed its recommendations on grade crossing matters have been followed by the city and county, as well as by the state railroad commission.

The registration of automobiles in California shows a ratio of one automobile to every three inhabitants, although the number of tourists who drive their own cars into the state increases this ratio. However, until recently no systematic effort was made to eliminate highway grade crossings with the railroads. It is true that many such crossings have been abolished, but heretofore each crossing has been considered as an individual problem having no relation with any other crossing unless the situation was such that it was necessary to consider a group of crossings in a single project.

Some time ago, as a result of several grade crossing accidents in Los Angeles, the city council took the matter of a general plan of grade crossing elimination under consideration. After a careful survey of the situation in conjunction with the railroads, civic leaders, the county officers, and representatives of the Automobile Club of Southern California, an unofficial body, known as the Los Angeles County Grade Crossing Committee, was formed in 1924. This body was intended to be representative of all interests involved, and to this end all of the steam and electric railroads, the automobile club, the state railroad commission, the city planning commission, and the regional planning commission for the entire metropolitan area are represented among its membership.

The first action of the committee was to make a complete survey of the entire grade crossing situation in the county and city in conjunction with the railroads. Then each of the several roads was requested to submit a list of five crossings which it considered should be given preference in a general grade crossing elimination plan. From this list of 25, two crossings were selected on each road, making 10 in all, and these are to be eliminated before additional crossings are considered. The three public bodies having jurisdiction have accepted the recommendations of the committee and have proceeded to put the plan which it formulated into effect. As a result, 2 of the 10 crossings have already been eliminated, 2 more are under construction, while plans have been prepared for several others, and they are in the process of being financed.

The proceedings of the committee are quite informal, and any interested party can get a hearing before it. When the question of opening a new street or road across any of the railroads is brought to the city or county officers, it is referred to the committee, which appoints a sub-committee to investigate and report. If the sub-committee does not agree, the general committee takes action and, so far, both the city and county have followed the recommendations of the committee in these matters. As an example of the manner in which grade crossing matters are handled, the county is preparing to construct a new highway, to be known as Beverly boulevard to relieve the traffic congestion on Whittier boulevard which now carries an average daily traffic of 43,000 automobiles and other vehicles. The new road will parallel Whittier boulevard and will cross the Union Pacific tracks east of Pico by means of an overhead structure. The plans for the crossing were prepared and agreed upon by the railroad and the county, but before they were adopted finally they were submitted to the committee for approval.

The Public and the Railroads Are Both Assured a Square Deal

The organization of the committee, although it has no legal status, has been of great benefit to the public and to the railroads. The city of Los Angeles operates under what is known as a freehold charter, one of the few in the state, which was granted under a previous constitution. Under this charter the railroad commission has no power to review any action the city may take with reference to opening streets across the railroads within its jurisdiction. In fact, few of the acts of the council are subject to review by any authority. As a result, the mayor and council, if so disposed, are in a position to put an unjust burden on the railroads by ordering the opening of new streets or the elimination of any or all crossings in the city within an unreasonable time, and at the same time they might insist on plans which would be very unjust to the railroads. The roads recognize the desirability of disposing of the grade crossing problem as rapidly as good business judgment will permit and are lending their assistance in every way possible. To this end they are working closely with the committee, which is made up of successful business men and engineers.

Under the present system both the roads and the public are assured that whatever plans are adopted will have been well considered by men who are qualified to pass judgment on the various projects and that, if possible, all conflicting interests will be brought together before legal action is instituted to abolish any of the crossings on the various roads. They are assured, too, that in general the crossings which are most important from the standpoint of use and safety will be given preferred attention, and that none of the interests will be required to spend an unreasonable amount of money for crossing elimination in any given period.

Rock Island Common on Dividend Basis

Rate of 5 per cent made possible by marked increase in earnings—Improved operating efficiency

WERE it not for the peculiar situation existing in Wheeling & Lake Erie and Western Maryland the railroad that would seem most to deserve the spotlight this week is the Rock Island. This is due primarily to the declaration of an initial dividend on the common stock made possible by a steady improvement in earnings and a particularly remarkably improved net income in 1926.

The initial dividend on Rock Island common stock totals $1.25 a share, thereby placing the issue on a 5 per cent annual dividend basis. With the announcement of its declaration by the board of directors, Charles Hayden, chairman of the board, said that the balance of income after payment of the dividends on the first and second preferred stocks was $7,948,000, equivalent to $10.62 per share on the common stock. Net income available after the preferred dividends in 1925 equalled $4.54 per share on the common stock and in 1924, $4.36 per share.

More exactly the road reported for 1926 net income after interest and other charges of $11,515,881 as compared with $6,966,132 in 1925 and $6,835,221 in 1924. The 1926 net after charges does not include the profit on the sale to the Kansas City Southern of shares of the St. Louis Southwestern. The Rock Island acquired a minority interest in the Cotton Belt in 1924 and sold this interest to Mr. Loree late in 1925 after an examiner of the Interstate Commerce Commission had recommended against allowing the Rock Island to exercise control over the Cotton Belt but before the commission had made its decision. From this transaction the Rock Island realized a profit of $2,467,000, which was credited to surplus in 1926. This profit was equivalent to $3.31 a share on Rock Island common stock.

The other reason was a great increase in Rock Island traffic and increased economy with which that traffic was handled. The two busiest years in Rock Island history prior to 1926 were 1920 and 1925, the revenue ton-miles in 1925 being slightly larger than in 1920. The 1926 revenue ton-mile figures are not yet available. However, the net ton-miles (including non-revenue freight) for the first ten months of 1926 show an increase over the first ten months of 1925 of 5 per cent and an increase over the first ten months of 1920 of 4.1 per cent.

Detailed Comparison of 1926 Results

The 1926 results as a whole may be briefly compared with 1925 as follows:

	1926	1925	Increase + or decrease—	Per cent
Freight revenues	$102,203,024	$95,923,398	+$6,279,626	+6.5
Railway operating revenues	137,911,415	130,683,246	+7,228,169	+5.5
Transportation expenses	9,848,490	49,868,630	—20,140	...
Operating ratio	*74.55	*77.17	.....	—2.62
Transportation ratio	*36.15	*38.19	.....	—2.04
Total revenue train-miles, freight	16,508,926	16,523,884	—14,958	—0.1
Total revenue train-miles, freight and passenger	33,214,642	33,436,730	—222,088	—0.7

*Per cent.

1—Freight revenue in 1926 increased $6,279,626, or 6.5 per cent, and railway operating revenue increased $7,228,169, or 5.5 per cent, with a reduction in transportation expenses of $20,140.

2—The operating ratio was reduced from 77.17 per cent in 1925 to 74.55 per cent in 1926, or 2.62 per cent, of which 2.04 per cent, or 80 per cent was made in transportation expenses.

3—Revenue freight train-miles in 1926, notwithstanding an increase in freight revenue of 6.5 per cent, were reduced by 14,958 miles, or 0.1 per cent, as compared to 1925 and the total revenue train-miles, freight and passenger, were reduced 222,088 miles or 0.7 per cent.

4—The bogey set by the management for transportation ratio for 1926 was 37 per cent. The actual ratio was 36.15, or 0.85 per cent decrease which made the transportation expenses $1,172,247 less than the bogey.

5—In 1926, for the first time in the history of Rock Island, the annual freight revenue exceeded the $100,000,000 mark, being $102,203,024; this was due to increased tonnage handled (6.2 per cent) which secured an increased train-load of 5.8 per cent, directly influencing transportation costs favorably.

Serves 14 States

The management of the Chicago, Rock Island & Pacific has a peculiar problem due to the widespread area that the lines of the property serve. There are few roads in the country that seem to have less concentration. The company's 8,000 miles lie in no less than 14 different states and it has been aptly said that the lines form a W, with Chicago, St. Louis and Memphis forming the tops of the letter and joined only by a most roundabout connection between either two of these three important traffic centers.

Considering that on the west the lines reach such widely separated points as the Twin Cities, Watertown, S. D., Denver and Pueblo, Colo., Tucumcari, N. Mex., and Dallas, Tex., with a line south into Louisiana terminating at Eunice, it is not surprising that the road has both a diversification of traffic and of operation. It is further handicapped by having the short line between competitive centers in only about one important instance, namely between the Twin Cities and Kansas City. A controlling interest in the Rock Island is now owned by the Frisco and it is to be supposed that this community of interest may help eliminate some of the Rock Island's present disadvantages notably by assisting in better traffic routing and by keeping in the system traffic that otherwise would have to be turned over to competitors.

History

The original Rock Island had been built from Chicago to the Mississippi river about ten years prior to the Civil War and it was the first line to reach that river from the Great Lakes. In 1869, the road reached the Missouri at Council Bluffs, connecting with the Union Pacific and a few years later reached it also at Kansas City, connecting with the Kansas Pacific. The road with these lines as a nucleus became a prosperous property and remained such until the Reid-Moore-Leeds group acquired control in

1901. The new owners started on a program of expansion. Notably they acquired the Burlington, Cedar Falls & Northern operating 1,300 miles of line, having lines from the Mississippi river to Sioux Falls and Watertown, S. D., and to the Twin Cities. They also acquired the Choctaw, Oklahoma & Gulf, a 1,200-mile system having a main line from Memphis, Tenn., to Amarillo, Tex. Between these acquisitions and new construction the mileage of the system was increased from 3,900 on March 31, 1901, to 7,032 on August 1, 1902.

The new management in 1903 acquired control of the St. Louis & San Francisco and nearly succeeded in buying the Seaboard Air Line. The Frisco stock was sold in 1909 and the Reid-Moore-Leeds management was ultimately eliminated although not until there had been a scandal which has been used until quite recently as one of the stock arguments of the railroad baiters. The point is however, that the lines acquired, except for the Frisco, were retained and the character of the system changed from one of fair concentration to one of greatest diversification. It is an anomaly of railroad progress that the Frisco should since have succeeded in becoming so prosperous as to have been enabled to acquire a controlling interest in the property which once was its parent company.

Table I—Chicago, Rock Island & Pacific, Operating Results, Selected Items, 1916-1926

Year	Mileage	Revenue ton miles	Revenue passenger miles	Rev. per ton miles, cents	Total operating revenues	Total operating expenses	Net operating revenues	Operating ratio	Net railway operating income	Net after charges
1916..	8,088	6,427,424,000	969,061,000	0.86	80,889,129	55,091,717	25,797,412	69.10	.....	8,078,189
1917..	8,218	7,076,007,000	1,100,674,000	0.84	89,608,722	66,046,104	23,562,618	73.70	.....	7,527,145
1918..	8,250	7,052,676,000	1,127,838,000	0.98	104,289,565	89,550,327	14,739,238	85.87	.....	*5,481,099
1919..	8,055	6,996,303,000	1,209,719,000	1.10	116,624,683	101,497,733	15,126,950	87.03	.....	*4,887,891
1920..	8,102	7,885,424,000	1,234,110,000	1.20	141,946,973	133,535,832	8,411,141	94.07	.....	*4,663,155
1921..	8,123	6,857,673,000	957,054,000	1.44	139,108,816	114,299,897	24,808,919	82.17	16,433,877	4,502,145
1922..	8,116	6,650,444,000	872,967,000	1.32	125,086,233	100,570,926	24,515,307	80.40	14,656,572	4,285,379
1923..	8,096	7,475,439,000	888,868,000	1.25	130,403,086	104,990,136	25,412,950	80.51	14,841,164	4,481,502
1924..	8,073	7,853,201,000	838,904,000	1.21	130,880,512	101,206,546	29,673,966	77.33	17,708,956	6,835,221
1925..	8,022	7,912,863,000	815,323,000	1.21	130,683,246	100,769,486	29,913,760	77.17	17,926,384	6,966,132
1926..	....	.....	.....	...	137,911,415	102,812,255	35,099,160	74.55	22,358,129	11,515,881

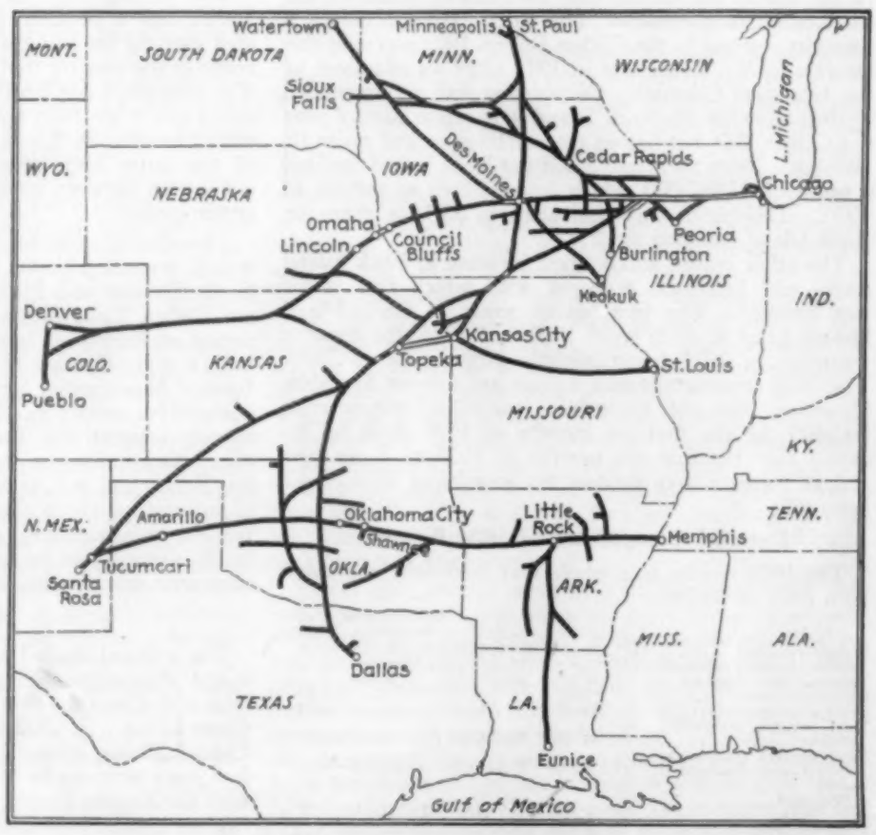
*Includes Standard Return and Guaranty.

Earnings

In spite of its rather hectic career in the early years of the present century the Rock Island succeeded in avoiding receivership until April, 1915, and even then it was promptly re-organized in February, 1917, without a foreclosure sale. The new company was given a capitalization including $29,000,000 7 per cent preferred and $25,000,000 6 per cent preferred, both cumulative to the extent of 5 per cent dividends but on which full dividends have been paid since the re-organization. The common stock amounted to $74,500,000 making the total stock $129,000,000. As of December 31, 1925, the road had outstanding $265,000,000 of funded debt. Interest charges and preferred dividend requirements have been earned each year since the re-organization although had it not been for standard return and guaranty there would have been in 1920 a deficit after fixed charges of over 10 million.

The road had a slow recovery, however, from federal control. It will be seen in Table I that the net after interest and other fixed charges averaged about 4½ million (inclusive in 1918, 1919 and 1920 of standard return and guaranty) in the six-year period from 1918 to 1923. The preferred dividend requirements total 3½ million leaving in these years about one million available for dividends on the common which would amount to slightly over 1 per cent. In 1924 and 1925, the net after charges increased to nearly 7 million leaving a balance after preferred dividends of over 3 million or about 4½ per cent. These details are given to indicate more clearly the remarkable improvement in earnings in 1926 which was sufficient to allow a return of $10.62 on the common stock in that year.

The comparison of operating statistics in Table II is



The Chicago, Rock Island & Pacific

unusually interesting. This table gives a comparison as between the first ten months of 1926 and the first ten months of 1920, which years as above stated were two of the three busiest years in Rock Island history. The table shows an increase of 20.2 per cent in gross ton-miles and of 4.1 per cent in net ton-miles which increased traffic was handled with fewer freight train-miles, fewer freight train-hours and a smaller consumption of coal. The explanation is seen to lie chiefly in the increase in the train load and the train speed which together effected the very satisfactory increase of no less than 36.8 per cent in the gross ton-miles per train hour.

The 1925 commodity classification shows percentages of total revenue tonnage as follows: Products of agriculture, 26 per cent; animals and products, 6 per cent; products of mines, 34 per cent (bituminous coal 13 per cent); products of forests, 7 per cent; manufactures and miscellaneous, 24 per cent and l.c.l., 4 per cent. The percentage of products of agriculture is large but is compensated for by the diversified character of traffic in that category which includes besides wheat and other grain a heavy tonnage of California fruits received from the Southern Pacific at Tucumcari upon which traffic the Rock Island receive a long haul to Chicago and other consuming centers.

Table II—Comparison of Selected Freight Operating Statistics (Including Chicago, Rock Island & Gulf)

	First 10 mos. 1925	First 10 mos. 1920	Per cent of change Inc.	Dec.
Mileage operated	8,023	8,098	...	0.8
Gross ton-miles (thousands)	20,287,943	16,866,701	20.2	...
Net ton-miles (thousands)	8,059,095	7,740,879	4.1	...
Freight train-miles (thousands)	14,487	15,177	...	4.5
Freight locomotive-miles (thousands)	15,255	15,574	...	2.0
Freight car-miles (thousands)	556,608	442,781	24.9	...
Freight train-hours	1,123,081	1,276,708	...	12.8
Tons of coal consumed by freight locos.	1,683,845	1,829,021	...	7.9
Car-miles per day	32.3	26.6	21.4	...
Net tons per loaded car	22.4	24.2	...	7.5
Per cent loaded to total car-miles	64.5	72.3	...	7.8
Net ton-miles per car day	468	466	0.4	...
Freight cars per train	39.4	30.1	31.0	...
Gross tons per train	1,400	1,111	26.0	...
Net tons per train	556	510	9.1	...
Train speed, miles per train-hour	12.9	11.9	8.4	...
Gross ton-miles per train-hour	18,065	13,211	36.8	...
Net ton-miles per train-hour	7,176	6,063	18.4	...
Lb. coal per 1,000 gross ton-miles	144	.....	...	...
Loco.-miles per loco-day	67.6	69.9	...	3.2
Per cent freight locos. unserviceable	21.6	30.6	...	9.0
Per cent freight cars unserviceable	9.3	6.7	2.6	...

Rock Island traffic includes each year a large proportion of refined petroleum and its products; in 1924 and 1925 about 7 or 8 per cent. In 1925 it carried also a fairly large volume of crude petroleum which made up 4.48 per cent of its total traffic. The trouble with the latter traffic is that as soon as an oil field is developed pipe lines are built and the traffic is turned over to them. The Rock Island, as it happens, serves the new Seminole field which is at present receiving considerable attention. This field lies in the neighborhood of Seminole which is located in the central part of Oklahoma on the main line of the Rock Island about 17 miles east of Shawnee. The Rock Island, according to latest reports, is handling 200 carloads of oil per day from this territory. The production began about four months ago.

The production of this oil, which includes the 200 cars per day handled by the Rock Island and the amount transported through pipe lines, has been quite a problem for the railroad. When the first rush came, the general superintendent parked his business car at Seminole to supervise operations. A yard office has been established and about 20 clerks are handling the business at this point. The town, which originally numbered 1,500, has grown to 15,000 or 20,000 and the lack of accommodations forces many to sleep in the open. At present there are 1,600 inbound cars awaiting unloading. The Rock Island has placed a special train in service from Oklahoma City, a distance of 55 miles, and many of the oil people commute daily.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended January 29 amounted to 950,969 cars, an increase of 25,273 cars as compared with the corresponding week of last year and an increase of 53,601 cars as compared with 1925. The increase was mainly in the East and in the South, however, and was due to heavy coal loading, which amounted to 225,459 cars, an increase of 42,355 cars as compared with last year. The Northwestern and Central Western districts showed an increase as compared with last year but a decrease as compared with 1925, and the Southwestern district showed a decrease as compared with last year but an increase as compared with 1925. Coke, forest products and miscellaneous freight showed decreases as compared with last year while the other commodity classifications showed increases, but grain and grain products, livestock, coke and forest products showed decreases as compared with 1925. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading—Week Ending Saturday, January 29, 1927

Districts	1927	1926	1925
Eastern	222,874	209,431	201,427
Allegheny	190,059	181,579	177,520
Pocahontas	58,798	56,014	48,082
Southern	154,759	153,323	140,872
Northwestern	114,332	113,856	118,317
Central Western	138,980	136,534	145,429
Southwestern	71,167	74,959	65,721
Total West. districts	324,479	325,349	329,467
Total all roads	950,969	925,696	897,368
Commodities			
Grain and grain products	47,687	45,266	47,880
Live stock	31,300	31,278	34,032
Coal	225,459	183,104	193,100
Coke	12,785	18,195	13,310
Forest products	65,203	72,565	75,587
Ore	10,456	9,396	8,885
Mdse. L.C.L.	250,075	249,333	232,326
Miscellaneous	308,004	316,559	292,048
January 29	950,969	925,696	897,368
January 22	942,587	921,643	924,291
January 15	950,045	931,735	934,022
January 8	940,800	907,662	934,170
January 1	740,348	741,560	767,098
Cumulative total, 5 weeks	4,524,749	4,428,256	4,456,949

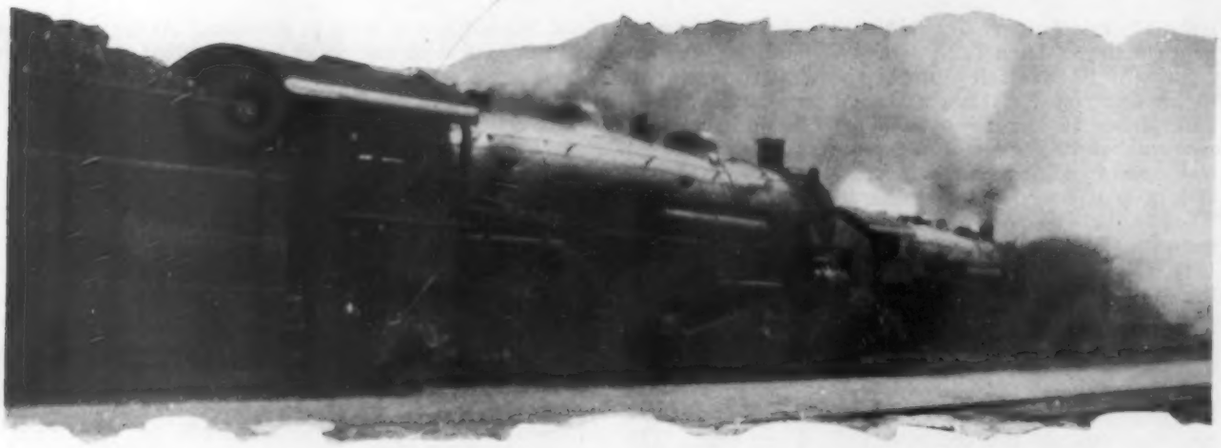
The freight car surplus for the third week of January averaged 275,544 cars, a decrease of 43,937 cars in a week. This included 65,751 coal cars and 163,225 box.

The Canadian roads for the same week had a surplus of 21,850 cars, including 18,600 box cars and 250 coal.

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended January 29 showed an increase over the previous week of 1,252 cars, in spite of the decidedly cold weather. Compared with the same week last year there was an increase of 5,989 cars.

	Total for Canada			Cumulative Totals to Date	
COMMODITIES	Jan. 29, 1927	Jan. 22, 1927	Jan. 30, 1926	1927	1926
Grain & Grain Products	7,633	7,313	6,365	38,157	34,170
Live Stock	2,088	2,149	1,717	8,822	8,602
Coal	6,443	8,240	5,286	28,125	22,430
Coke	414	414	471	1,589	1,758
Lumber	2,891	2,650	3,121	10,403	11,362
Pulpwood	6,080	4,971	4,255	18,798	15,208
Pulp and Paper	2,322	2,156	2,686	8,752	10,590
Other Forest Products	3,565	3,128	3,901	12,055	13,015
Ore	1,304	1,068	1,348	5,120	5,588
Merchandise, l. c. l.	15,634	15,311	13,947	60,338	55,984
Miscellaneous	10,881	10,603	10,169	41,699	39,991
Total Cars Loaded	59,255	58,003	53,266	233,858	218,698
Total Cars Received from Connections	37,089	37,223	35,035	138,084	134,523



Two Wage Increase Agreements

Eastern firemen and Southeastern trainmen secure 7½ per cent advance from February 1

AN increase in wages of 7½ per cent for 31,000 firemen employed on about 50 railroad lines east of Chicago and north of the Ohio river was agreed upon through mediation of the dispute between the railroads and the Brotherhood of Locomotive Firemen & Enginemen, the series of conferences leading to the agreement ending February 5. Credit has been given by both parties to G. W. W. Hanger, mediator assigned to handle the matter by the United States Board of Mediation, and member of the former Railroad Labor Board, for his work in bringing both sides into harmony. Mr. Hanger credited both the representatives of the men and the roads with being "businesslike and reasonable," and willing to co-operate in a way that enabled him to bring about harmony in 12 days.

On February 8 the Board of Mediation announced an agreement on a wage increase for trainmen in the Southeast.

The original request of the firemen, represented at the conferences by D. B. Robertson, president of the B. of L. F. & E., was for from $1.00 to $2.75 increase in daily wages, which would have meant an addition to the payrolls of the carriers of about $13,000,000. Under the 7½ per cent increase, the addition to the payrolls will amount to about $5,000,000.

The original demands of the men were made in June, 1926, and were declined by the individual managements. The case was then turned over to the representatives of the employees and to the Conference Committee of Managers of Eastern Railroads, headed by J. G. Walber, vice-president of the New York Central, to handle. Because the committee was handling the trainmen's wage rate case during the fall, the beginning of conferences in the present case was deferred until January 6. After about 12 days of meeting, it was apparent to both parties that they could not reach a settlement and application was made to the United States Board of Mediation for a mediator. Mr. Hanger arrived in New York to handle the matter on January 24, and after conferring at length with both parties separately was able to adjust the dispute and prepare the agreement for signature on February 5.

The Firemen's Original Proposal

The original request of the union included changes in rules and rates of pay as follows:

1. Proposed Rates of Pay

(a) Except as otherwise provided herein, existing rates of pay for firemen, helpers, hostlers and outside hostler helpers shall be increased $1.00 per day;

(b) In freight service on steam, electric or other power weighing 250,000 lb. and over on drivers and on mallet engines, existing rates of pay shall be increased $1.25 per day;

(c) Gradations of locomotives, according to weight on drivers, to be extended to 550,000 lb. and over in freight service, with an additional increase of 25 cents per day to be applied for each 50,000 lb. above 250,000 lb. on drivers;

(d) Rates applicable to mallet locomotives to be applied to three-cylinder locomotives in all classes of service, according to weight on drivers;

(e) It is understood that the weight on all other power-driven wheels will be added to the weight on drivers of locomotives that are equipped with boosters and the weights produced by such increased weights shall fix the rates for the respective classes of service;

(f) In all passenger service, the earnings from mileage, overtime or other rules applicable, for each day service is performed, shall not be less than $6.25 for firemen;

(g) For local or way freight service, except where higher differentials exist, 40 cents per 100 miles or less for firemen shall be added to the through freight rates, according to class of engine; miles over 100 to be paid for pro rata.

2. Overtime—Short Turn-Around Passenger Service

Firemen and helpers on short turn-around passenger runs, no single trip of which exceeds 80 miles; including suburban and branch line service, shall be paid overtime, on the minute basis at pro rata rates for all time in excess of 8 hours, computed continuously from the time first required to report for duty to the final release at the end of the last run. This rule applies regardless of mileage made. For calculating overtime under this rule the management may designate the initial trip.

3. Overtime—Passenger Service (Except Short Turn-Around Service)

Overtime in all passenger service, (except short turn-around service) shall be paid for on the minute basis at a rate per

hour of not less than one-fifth (⅕) of the daily rate herein provided, according to the class of engine or other power used.

4. Mechanical Stokers

Mechanical stokers shall be installed on all coal-burning-locomotives in road service weighing 175,000 lb. and over on drivers. Two firemen shall be employed on such locomotives until so equipped.

5. Meals—Freight Service

Firemen and helpers employed in freight service shall be given a reasonable amount of time for meals; they to notify the dispatcher if possible to do so.

6. Allowance for Meals and Lodging

Firemen and helpers shall be allowed 50 cents per meal and 50 cents per lodging when away from home.

7. Mountain and Desert Differentials

Existing differentials for divisions or portions thereof; or mountain or desert territory as compared with valley territory, whether expressed in rates or constructive mileage allowances, are preserved.

8. Saving Clause

Existing rates of pay, in excess of standard rates, shall be increased the same amount as proposed for the standard rates. Existing rules, including those modified herein, considered more favorable by committees on individual roads, are preserved.

Changes in Rules

The representatives of the employees withdrew without prejudice their demand for the installation of mechanical stokers on locomotives of more than 175,000 lb., the allowance of time for meals and expenses for meals when away from home, and some other changes in rules. The important change in rules is that made with regard to 1 (e) in the original request. It covers the matter of weight when boosters are used.

The agreement signed reads, in part, as follows:

1—(e) Booster Equipped Locomotives

The following defines the bases for fixing the weight on drivers of a booster equipped locomotive.

Booster on Locomotive Trailer. The weight on the power driven trailer wheels will be added to the weight on drivers.

Booster on Tender. When a locomotive leaves a terminal with booster in condition to operate the weight on drivers will be determined by adding the tractive effort of the booster to the tractive effort of the locomotive and establish new weight on drivers proportionate to the increased tractive effort.

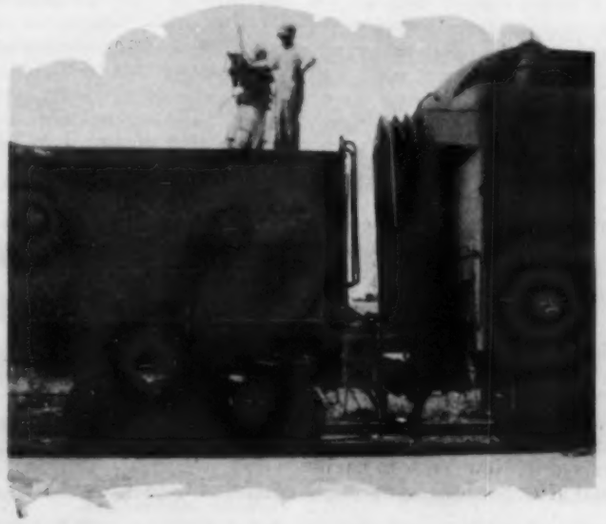
Example: Locomotive without booster weighs 224,000 lb. on drivers, with tractive effort of 47,500 lb. Tractive effort equals 21.2 per cent of weight on drivers. Booster adds 10,000 lb. to the tractive effort, making total tractive effort 57,500 lb.; 57,500 lb. is 21.2 per cent of 271,000 lb., the new weight on drivers.

1—(f) In all passenger service, the earnings from mileage, overtime or other rules applicable, for each day service is performed, shall be not less than $5.64.

1—(g) For local or way freight service, except where higher differentials exist, 40 cents per 100 miles or less shall be added to the through freight rates, according to class of engine; miles over 100 to be paid for pro rata.

1, 2, 3, 4, 5 and 6. Proposed rules 1 (c) and (d)—except as modified by accompanying tables—and 2, 3, 4, 5 and 6 are withdrawn without prejudice.

7. Mountain and Desert Differentials. Existing differentials for divisions or portions thereof; or mountains or desert territory as compared with valley territory, whether expressed in rates or constructive mileage allowances, are preserved.



8. Saving Clause. Existing rates of pay in excess of standard rates shall be increased the same amount as provided for the standard rates.

The agreement applies to firemen, hostlers and helpers and is retroactive to February 1, 1927, and will be in force for one year. The accompanying table shows rates of pay for firemen under the increase of 7½ per cent and the rates of pay before that took effect.

Firemen's Rates of Pay

Passenger Service Weight on drivers	Rates after 7½ % increase, Per day	Before increase, Per day
Less than 80,000 lb.	$4.90	$4.56
80,000 to 100,000 lb.	4.99	4.64
100,000 to 140,000 lb.	5.07	4.72
140,000 to 170,000 lb.	5.25	4.88
170,000 to 200,000 lb.	5.33	4.96
200,000 to 250,000 lb.	5.42	5.04
250,000 to 300,000 lb.	5.42	5.04
300,000 to 350,000 lb.	5.50	5.12
350,000 to 400,000 lb.	5.59	5.20
400,000 to 450,000 lb.	5.68	5.28
450,000 to 500,000 lb.	5.76	5.36
500,000 lb. and over	5.85	5.44
Mallets, regardless of weight	6.19	5.76
Freight Service		
Less than 80,000 lb.	$5.38	$5.00
80,000 to 100,000 lb.	5.46	5.08
100,000 to 140,000 lb.	5.63	5.24
140,000 to 170,000 lb.	5.81	5.40
170,000 to 200,000 lb.	5.98	5.56
200,000 to 250,000 lb.	6.15	5.72
250,000 to 300,000 lb.	6.32	5.88
300,000 to 350,000 lb.	6.59	6.13
350,000 lb. and over	6.67	6.20
Mallets less than 275,000 lb.	6.67	6.20
Mallets 275,000 lb and over	7.00	6.51
Yard Service		
Less than 140,000 lb.	$5.68	$5.28
140,000 to 200,000 lb.	5.81	5.40
200,000 to 300,000 lb.	5.93	5.52
300,000 lb. and over	6.11	5.68
Mallets under 275,000 lb.	6.88	6.40
Mallets 275,000 lb. and over	7.14	6.64
Hostlers and Helpers		
Outside hostlers	$6.36	$5.92
Inside hostlers	5.68	5.28
Hostler helpers	5.07	4.72

Southern Trainmen Secure Increase

A settlement of the wage controversy between 20 southeastern railroads and the Brotherhood of Railroad Trainmen and the Order of Railway Conductors on February 7, on the basis of a 7½ per cent increase in existing basic wage rates, following the recent award of a board of arbitration for the same classes of employees on the eastern roads, was announced on February 8 by the United States Board of Mediation. The settlement affects approximately 22,000 employees and it is estimated that the wage increase, effective as of February 1, will amount to about $3,300,000 a year. The Southern which has a separate agreement with the brotherhoods, which expires on March 1, was not involved.

The settlement except for some detail differences is based on the arbitration award, in the eastern trainmen's case for which the brotherhood representatives have contended through a long series of conferences, which they

interrupted for a time to take a strike vote. The vote was returnable on January 20 but the result was not announced and, under the auspices of the Board of Mediation, conferences were resumed between P. R. Albright, vice-president of the Atlantic Coast Line, as chairman of the conference committee representing the southeastern lines, and L. E. Sheppard, president of the Order of Railway Conductors, and W. N. Doak, vice-president of the Brotherhood of Railroad Trainmen. The demands for increased wages were presented early last year and were estimated to amount to an increase of about 19 per cent. Conferences were begun in December and the brotherhood officers asked for the application of the eastern award. When the railroads declined, the services of the Board of Mediation were invoked at the request of the railroads, in which the brotherhoods declined to join although they did not make objection.

The mediation agreement, as signed on February 9, follows in all except a few details the arbitration award to the eastern trainmen (*Railway Age*, December 11, page 1157). Some of these differences are:

1. Wage advance made to apply to assistant conductors and ticket collectors only where these classes are now included in the agreement or where such classifications are made by practice. Eastern award did not make this exception.

2. Working rules for car retarder operators to be those placed in effect on the Indiana Harbor Belt on January 26, 1925, except as altered by agreement on individual railroads. Eastern award did not mention these rules.

3. Any questions arising out of the agreement to be referred to a committee composed of two railway representatives and two representing unions. No such provision was made in the Eastern award.

4. Rules governing payment for pick-up and set-out service to be determined by agreement on individual roads. Eastern award included an elaborate clause on this subject.

5. Effective date made February 1, 1927, instead of December 1, 1926, as in the case of Eastern award.

Railway Returns for 1926

WASHINGTON, D. C.

CLASS I railroads in 1926 had a net railway operating income of $1,231,494,000 which was 5.13 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics, which show a net somewhat less than had been estimated. The net railway operating income in 1925 was $1,138,696,000, or 4.85 per cent.

Operating revenues in 1926 amounted to $6,451,148,000, as compared with $6,189,268,000 in 1925 or an increase of 4.2 per cent. Operating expenses totaled $4,717,590,000, compared with $4,584,600,000 in 1925, or an increase of 2.9 per cent.

Total maintenance expenditures amounted to $2,167,679,000, an increase of $73,385,000 or 3.5 per cent above those for 1925. Of this total, $875,216,000 went for maintenance of way expenses, an increase of $50,184,000, or 6 per cent, while expenditures for maintenance of equipment amounted to $1,292,463,000, an increase of $23,201,000, or nearly 2 per cent.

Class I railroads in 1926 paid $394,370,000 in taxes, an increase of $30,780,000 or 8.5 per cent above their total tax bill in 1925.

Sixteen Class I railroads operated at a loss in 1926, of which six were in the Eastern district, one was in the Southern and nine were in the Western district.

The net railway operating income by districts in 1926 with the percentage of return based on property investment was as follows:

		Per cent
New England Region	$45,397,000	5.06
Great Lakes Region	222,785,000	5.49
Central Eastern Region	256,567,000	5.24
Pocahontas Region	90,453,000	9.21
Total Eastern District	615,202,000	5.68
Total Southern District	162,659,000	5.48
Northwestern Region	131,002,000	3.93
Central Western Region	221,547,000	4.86
Southwestern Region	101,084,000	4.54
Total Western District	453,633,000	4.45
United States	1,231,494,000	5.13

The rate of return on property investment for the five years ending with 1926 has averaged 4.50 per cent per year.

For December, the net railway operating income of the Class I railroads amounted to $81,017,000, which was at the rate of 4.03 per cent. In December, 1925, the net was $94,686,000 or 4.82 per cent.

Operating revenues for December amounted to $526,725,000, compared with $524,394,000 in December, 1925, or an increase of four-tenths of one per cent. Operating expenses totaled $407,413,000, compared with $389,763,000 in the same month the year before, or an increase of 4.5 per cent.

Eastern District

The net railway operating income for the Class I railroads in the Eastern district in 1926 totaled $615,202,000, at the rate of 5.68 per cent. In 1925, their net railway operating income was $555,960,000, or 5.24 per cent. Operating revenues for 1926 totaled $3,234,341,000, an increase of 5.7 per cent, while operating expenses totaled $2,384,522,000 an increase of 4 per cent over 1925. The net railway operating income was $37,213,000, compared with $41,988,000 in December, 1925.

Southern District

Class I railroads in the Southern district in 1926 had a net railway operating income of $162,659,000 which was at the rate of 5.48 per cent. In 1925, the net was $168,184,000, or 5.93 per cent. Operating revenues in 1926 amounted to $876,162,000, an increase of 2.9 per cent over 1925, while operating expenses totaled $647,737,000 an increase of 4.5 per cent. The net railway operating income in December amounted to $12,779,000, while in the same month in 1925 it was $15,698,000.

Western District

Class I railroads in the Western district in 1926 had a net of $453,633,000, or 4.45 per cent. In 1925, the railroads in that district had a net of $414,552,000, or 4.13 per cent. Operating revenues in 1926 amounted to $2,340,645,000, an increase of 2.7 per cent, while operating expenses totaled $1,685,331,000, an increase of nine-tenths of one per cent compared with 1925. For December, the net railway operating income in the Western district amounted to $31,025,000, as compared with $37,000,000 in December, 1925.

The summary follows:

Class I Railroads—United States

	1926	1925
Month of December		
Total operating revenues	$526,725,000	$524,394,000
Total operating expenses	407,413,000	389,763,000
Taxes	30,103,000	32,070,000
Net railway operating income	81,017,000	94,686,000
Operating ratio—per cent	77.35	74.33
Rate of return on property investment	4.03%	4.82%
Twelve Months Ended December 31		
Total operating revenues	$6,451,148,000	$6,189,268,000
Total operating expenses	4,717,590,000	4,584,600,000
Taxes	394,370,000	363,590,000
Net railway operating income	1,231,494,000	1,138,696,000
Operating ratio—per cent	73.13	74.07
Rate of return on property investment	5.13%	4.85%

Air Brake Instruction Car for the Los Angeles & Salt Lake

THE Los Angeles & Salt Lake has recently converted an old 78-ft. observation car into an air brake instruction car which contains a number of unique features. Practically no changes were made in the design of the underframe and body construction except that the body was strengthened by the addition of four truss rods, and six-wheel steel-framed trucks with 5-in. by 9-in. journals and equipped with special springs were placed under the car to carry the increased weight. The car weighs complete, 175,360 lb. No living quarters have been provided in the car for the instructor, all the available space being utilized for equipment. It is the intention of the management to make the car an instruction car in the broadest sense of the word, the idea being to make the men feel free to go into the car and work out their own air brake and train handling problems in their own way if they choose to do so.

Interior of the Union Pacific Air Brake Instruction Car

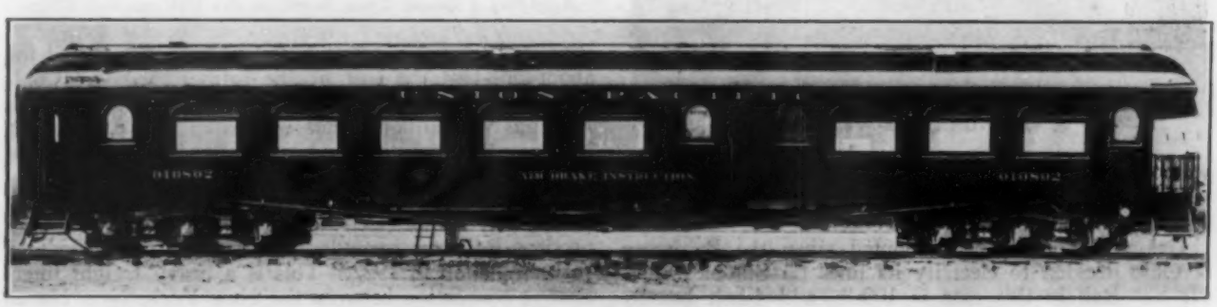
Seventy-five sets of freight brake equipment together with 43 ft. of 1¼-in. and 6 ft. of 1-in. brake pipe per set, have been installed in the car. This includes two 1¼-in. cut-out cocks which have the handles removed, to be used when desired in place of angle cocks and two standard brake pipe air hose per set. One-inch branch pipes were used for convenience in installation due to the fact that some of the branch pipes had to be bent and fitted when installed. Of the 75 sets of freight brakes, 60 are 10-in. and 15 are 8-in. equipment. Standard K-triple valves are used on all but eight equipments, the latter being equipped with the old-style quick action valves which are employed to approximate average freight train conditions and also to better demonstrate the advantages of the K-type triple valve.

Clearance limitations made it possible to install only six sets of passenger equipment; namely, two single PM, two single LN, one double cylinder UC and one single cylinder UC of the quick service type. Standard 14-in. by 12-in. brake cylinders, with internal blocking to give 8-in. travel, were used for all passenger equipment. These cylinders are mounted on brackets with the pistons pointing downward as shown in one of the illustrations. The PM and LN triple valves are mounted on the pressure head and the U-12 valves are mounted on brackets directly over their respective cylinders. The equipment also includes an automatic slack adjuster. All reservoirs and other apparatus used for demonstration are installed inside the car.

Aside from the brake pipes that are used with each set of freight equipment, 63 ft. of 1¼-in. pipe and about 14 ft. of 1-in. pipe is used per set. A 14-in. passenger car signal equipment is represented by 14 63-ft. lengths of ¾-in. pipe provided with the usual cut-out cocks and hose. The signal equipment also includes several car discharge valves.

The reader can obtain an idea of the compactness of the piping arrangement from the fact that approximately 3,564 ft. of 1¼-in. pipe, 600 ft. of 1-in. pipe and 882 ft. of ¾-in. pipe have been installed in the car without objectionable bends and at the same time, allowing ample window space for lighting and ventilation. The arrangement of the equipment leaves a space of 5 ft. through the center of the car which allows comfortable seating space for 50 people with an aisle space between the chairs.

A complete set of locomotive air brake equipment, including two driver and one tender brake cylinders, have been installed in such a manner as to be in full view of the class. Either the passenger or freight equipment may be operated from the one locomotive equipment by opening one cut-out cock and closing another. The arrangement of this equipment is also shown in the interior view of the car. The locomotive equipment includes the various gages used in actual service and in addition to these gages, two single pointer gages with 12-in. dials have also been provided. One of these gages shows the brake pipe pressure at the head end and the other, the brake pipe pressure on the rear or seventy-fifth car of the train. These gages are used to illustrate the time interval between events at the head and rear ends of a train, especially during the



Air Brake Instruction Car Built at the Los Angeles, Cal., Shops of the Los Angeles & Salt Lake

release operation. The piping of the locomotive equipment is provided with extra cut-out and drain cocks so that the effect of leakage can be shown to best advantage. A 9½-in. single stage locomotive air compressor is used as a booster for the yard line pressure and is installed so as to operate at 100 single strokes per minute, about the same capacity as an 8½-in. cross-compound air compressor. The main reservoirs have a capacity of about 70,000 cu. in. and are hung under the body of the car. Gages have also been installed on the reservoirs and brake cylinders of about 20 freight equipments to show the effect of unequal piston travel. In addition, a number of the reservoirs and brake cylinders have also been equipped with gages to show the action of this equipment.

The car is equipped with tables built on a level with the window sills to support various sectional apparatus, such as air brake operating details, injectors, lubricators, power reverse gears, etc.

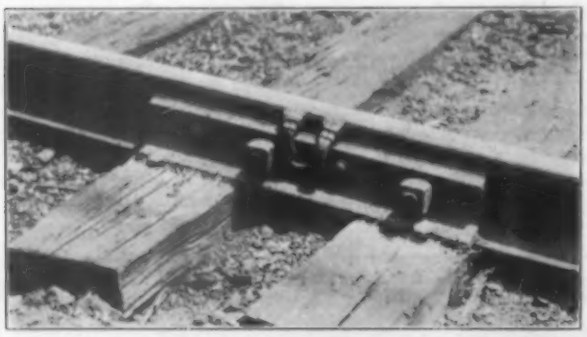
The car was equipped completely in the Los Angeles & Salt Lake car shops at Los Angeles, Cal., of which W. A. Johnson is general foreman. The work was performed under the personal supervision of foreman R. B. White. The air brake details and piping were planned by V. Villette, Westinghouse Air Brake Company and by J. R. MacDonald, general air brake instructor of the railroad.

Applying Power Bonds by Welding

By W. P. Bovard
Track Material Engineer, Ohio Brass Company

WHERE only a few years ago the railway electrification engineer went ahead rather boldly and in the face of criticism to apply welded bonds, he can now refer to numerous installations under widely varying conditions for proved service and economies.

The Boston & Maine has adopted gas-weld bonds for maintenance in its Hoosac tunnel electrification at North Adams, Mass. This is an 11,000-volt single-phase installation and 4/0 capacity bonds on both rails prove ample for track return. The initial installation of gas-



A 4/0, 7-Inch, Gas-Weld Bond

weld bonds was made on new rail which was bolted and bonded before being thrown into place in long lengths, without traffic interference.

Gas-weld bonding was adopted when the Baltimore & Ohio decided to electrify its lines on Staten Island, N. Y. Rail in this case is 100-lb. and 4-bolt heavily beaded angle bars are used at the joints. With 600-volt propulsion, heavy currents are required to handle long trains of multiple unit passenger equipment. A special 250,000 c. m., 13½-in. gas-weld bond was adopted, with two bonds per joint. This type of bond provides a total return capacity of 1,000,000 c. m. per rail. The two bonds are laced to allow for rail expansion. For special work, a single 500,000 c. m., gas-weld bond was

Motor Car and Trailer Used for Bond Welding on the Chicago, Milwaukee & St. Paul

used. The bonds were applied in every case to the rail head.

The Chicago, Milwaukee & St. Paul has used gas-weld rail bonds on its extensive 3,000-volt, d.c. electrification since 1921 on practically all new rail and for maintenance. This bond, of 4/0 capacity, 7 in. long, replaced a 37 in., 250,000 c. m. bond having ⅞-in. diameter, pin-

Applying a Laced Type Bond on the Baltimore & Ohio

expanded terminals. The gas-weld bond is installed for about one-half the cost of the former method. Comparative efficiencies are shown by the fact that the 4/0, 7-in. gas welded bond replaced two 250,000 c. m. bonds in heavy load territory and at the same time established a better return circuit and disposed of serious signal troubles.

The Bay Ridge electrification of the New York Connecting Railroad is under construction and scheduled for completion in 1927. This is a heavy freight interchange connection between the New York, New Haven & Hartford and the Pennsylvania and the Long Island.

The engineers selected a 1/0 capacity, 13-in., gas-weld bond for application over heavily beaded joints on 130-lb. rail. With 11,000-volt single-phase operation, this bond on both rails is expected to furnish ample return. Unusually large contact area is provided by the special bond.

The Great Northern has gas-weld bonds installed in the existing electrification, and it is planning to use similar bonds on future extensions.

Track Scale Tests by the Bureau of Standards*

THE Bureau of Standards of the Department of Commerce has issued its third annual report of a special series recording progress made by it in the investigation of the conditions under which carload freight is weighed. The chief function of the Bureau in this important matter is the control of weighing standards, which is accomplished by 19 master scales used for the calibration of test cars which are employed in turn for testing about 12,000 track scales, the Bureau undertaking annual calibration of the master scales in terms of the same weight standards.

The investigations made by the Bureau comprise actual tests and inspections of several hundred track scales used by railways for levying freight charges and by owners of industries in selling or purchasing commodities in carload lots. Tests of scales are made with special attention to accuracy, and inspections of the parts follow each test to discover faults of installation or maintenance which may affect adversely the performance of the scales, the data thus obtained being used in developing restrictive specifications, disseminating useful knowledge and pursuing a consistent program for the improvement of weighing machinery. In addition, the Bureau has for many years sought to improve the adequacy and accuracy of freight weighing facilities by direct contact with individual owners of track scales and much of the progress made has been due to this practice.

Three track scale testing units are operated, the working schedules being prepared to distribute the activities and benefits as equitably as possible throughout all sections of the country, the locations of the master scales defining primarily the routes to be followed, while seasonal changes are also a guiding factor. In general only a limited number of scales can be tested in each vicinity and an effort is made to include those of major importance or those for which tests have been formally requested. At the same time a number of scales in different classes of weighing service are usually selected to make the data truly representative of conditions in a given area.

During the year ending June 30, 1926, tests were made of 980 track scales, of which 550 were located at railroad weighing points, 418 at industrial plants and the remaining 12 owned by government, state or municipal departments. This service was distributed over 79 railroads and through 39 states and the District of Columbia. Adjustments were made on 172 scales to reduce the error of weighing, a service feature which is extended to track scale owners whenever, in the judgment of the inspector, such corrections will be of practical and lasting value.

Scales tested during the year are classified according to ownership and are grouped by geographical location in accordance with the districts as adopted by the Interstate Commerce Commission except in the case of the Western district, which for practical reasons is modified to include also the territory east of the Mississippi river and west of a line from East St. Louis to Peoria and Chicago, inclusive.

The tolerance applied to track scales tested by the Bureau allows an error equivalent to 0.20 per cent of the weight of the test load, which is in no case less than 40,000 lb. On the basis of this tolerance 62.1 per cent of the scales tested in the Eastern district were found to be correct, as compared with 61.9 per cent in the Southern district and 69.0 per cent in the Western district, and with percentages of 63.4, 47.0 and 71.3 in 1925 for the same districts respectively. The slight retrogression in the Eastern and Western districts contemporary with extraordinary improvement in the Southern district is indicative of a situation which the staff of the Bureau has anticipated, as it is believed that the improvements due to vigorous maintenance measures alone have reached a peak in the former two districts, while more attention has been paid to this factor in the Southern district, which has been deficient in this respect in the past. The improvement in the Southern district was sufficient to overcome the slight falling off in the other districts and to give a figure for all scales tested of 65.4 per cent within tolerance, a value substantially equal to that of the preceding year. The mean numerical error per cent of applied loads for all railroad scales tested were 0.29, 0.34 and 0.21 for the Eastern, Southern and Western districts respectively, while those for the industrial scales in the same districts, after excluding one industrial scale in the Southern district with an error exceptionally large and uncommon, were 0.26, 0.24 and 0.18 respectively. Particular attention is called to the figures for the Western district, which are very close to the allowable tolerance of 0.20 and which represent a satisfactory stage of progress. The mean error values for the Eastern and Southern districts are considerably better than for the preceding year.

Included in the tests already discussed were tests of 90 railroad scales used for weighing grain in sales transactions. Of the number tested 37 per cent were within the special tolerance of 0.10 per cent which the Bureau applies to grain weighing scales, while 15 scales with errors exceeding the tolerance limit were adjusted to reduce the error below this limit. The tests show that 77.8 per cent of the grain-weighing scales tested would have passed the tolerance applied to revenue freight and commercial weighing scales and emphasizes the theory that periodic inspection and proper maintenance are the chief factors in sustaining a high grade of accuracy in scales since the quality and type of equipment employed for track scales in the grain trade are identical with those used by the railroads for general purposes and it is only by superior maintenance that the greater accuracy is secured in the former field. Some of the large terminal grain markets are not provided with equipment for the suitable testing of grain scales and the service of the Bureau's equipment is in increasing demand at such points. In view of intimations made to members of the staff during the last year, it appears probable that the Bureau may be asked to extend its activities to include the testing of grain hopper scales, which would require additions to the staff and the purchase of special apparatus.

Two-section scales of knife edge type have been placed on the market recently and have aroused much interest regarding their merits. The issuance of specifications

* Abstracted from a report issued by the U. S. Bureau of Standards for the fiscal year ending June 30, 1926.

for the guidance of manufacturers and purchasers is contemplated and much preliminary work in that connection has been done in co-operation with the American Railway Engineering Association.

The data obtained by the tests show an apparent peak in improvement, which has been anticipated for some time, and judgment based on all the circumstances indicates that the general conditions, although short of those desired, will remain practically the same for a few years. High standards of quality have been established on most of the leading railroads and in many of the leading industrial plants but economic policies have prevented the establishment of such equipment elsewhere and this policy must be changed before the improvement can be sufficiently widespread to affect the general average. Under present conditions track scales removed from service are usually replaced by modern equipment, but this growth appears to be slow and the beneficial results accruing, although sure, will be correspondingly slow in making themselves felt.

Loree Suggests Simple Consolidation Legislation

WASHINGTON, D. C.

THE view that elaborate railroad consolidation legislation is not necessary at this time but that the needs of the situation could be met by a simple joint resolution of Congress which would permit the Interstate Commerce Commission to authorize consolidations without first preparing a complete consolidation plan has been submitted to the Senate committee on interstate commerce by L. F. Loree, president of the Delaware & Hudson and chairman of the executive committee of the Kansas City Southern.

"I deprecate the passage of further amendments to the transportation act," said Mr. Loree in a letter to the committee. "I think the railroads should be given an opportunity to adapt themselves to present conditions before further changes are made." As to the contention that consolidations are now impracticable because of the provisions of the present law that consolidations to be approved must be in harmony with a plan to be promulgated by the commission, Mr. Loree said that if this be true the defect could be met by the passage of a joint resolution directing the commission to suspend action under paragraphs 4 and 5 of section 5 of the act until August 31, 1930, and authorizing it to approve consolidations without waiting for the preparation of a complete plan.

Benton Makes Statement

Hearings before the committee were re-opened on February 7 to receive a statement by John E. Benton, general solicitor of the National Association of Railway and Utilities Commissioners, who expressed the fear that the provisions of the Fess bill granting powers to consolidated railway corporations might be construed to confer on them the powers of federal corporations in such a way as to deprive the states of their regulatory powers. He said the late Senator Cummins had omitted all provision for federal incorporation from his latest bill and that it was his understanding that, in taking over with little change certain provisions of the Cummins bill, it was not the intent of the author of the Fess bill to enact legislation which would create federal railroad corporations. However, he read numerous court decisions which he said indicated that such might be the result of the language used and he urged the committee to insert a provision declaring that that was not the intent of Congress.

Before the hearing some members of the committee objected to "wasting any more time on a bill that there is no chance of passing," but it was stated that the hearings had been held for the purpose of making a record that could be studied before the next session of Congress.

Mr. Benton said that section 211 of the bill specifically provides that "the resulting corporation shall have all and singular the rights, privileges, powers, immunities, exemptions, and franchises of each of the constituent corporations" and "shall have power to issue, sell or exchange securities," and that all of the property of the constituent corporations shall be held to be transferred to and vested in the resulting corporation without further act or deed. "If the bill in this form shall be enacted," he said, "I fear that the conclusion arrived at by the courts in construing it will be that it was the intent of Congress that the 'resulting corporation' should be a federal corporation, exercising under federal grant all of the corporate powers which were exercised by the antecedent state corporations, and such additional powers as shall be necessary or appropriate to the carrying into effect of the plan approved by the commission and the transaction of business thereafter in accordance therewith."

Thom Answers Benton's Criticisms

Alfred P. Thom, general counsel of the Association of Railway Executives, was asked by Senator Fess to make a statement in reply to Mr. Benton's argument on the following day. He declared that there are no grounds for such apprehension and that he could not believe that Mr. Benton was seriously concerned since he had not advanced the contention during some four years of discussion until after the hearings were practically closed. "If there is one principle finally settled by the Supreme Court," he said, "it is that Congress may confer on state corporations additional powers without disturbing their status as corporations of the state. The particular additional powers conferred are beyond the reach of the state but the corporation is still a state corporation."

He added that there is a technical possibility that under the provisions of the bill, as under the present law, a corporation created as a consolidation of others might be held to be a federal corporation, but it would be a "corporation without law" and would not have the necessary powers, such as the power to mortgage its franchises, until it had put itself under a code of corporate law by getting a state charter. "Just being a corporation would not be enough," he said. Mr. Thom also said that it would be extremely unlikely that the Pennsylvania, New York Central or other of the present large companies would give up their present charters in order to form a new company to form a consolidated system, but that the practical method would be for the present large companies to become the stems or trunks, of consolidated systems by the absorption of other companies.

In this connection Mr. Thom put into the record a number of decisions of the Supreme Court and other federal courts to bring out the legal distinction between a "consolidation" and a "merger," which has been the subject of much confused discussion throughout the hearings. Under these decisions, he said, a consolidation, strictly speaking, is a unification of two or more corporations into a single new corporation, having the combined capital, powers and franchises of the others, whereas a merger involves the absorption of one carrier by another which retains its own corporate identity. For most purposes the words are often used interchangeably,

Mr. Thom said, but there is a legal distinction between a transfer of property to one corporation which "swallows up" the others but retains its own existence and the uniting of separate companies into a new one, involving the dissolution of the old companies and the surrender of their charters.

"There is not the slightest ground for fear that this bill tends to embark on a policy of federal incorporation," Mr. Thom said. "The former Cummins bill and the Winslow bill included provisions for federal incorporation but they were dropped. From a scientific, as distinguished from a political standpoint, there are many reasons why federal incorporation would be very desirable, but nothing of that sort is attempted in this bill."

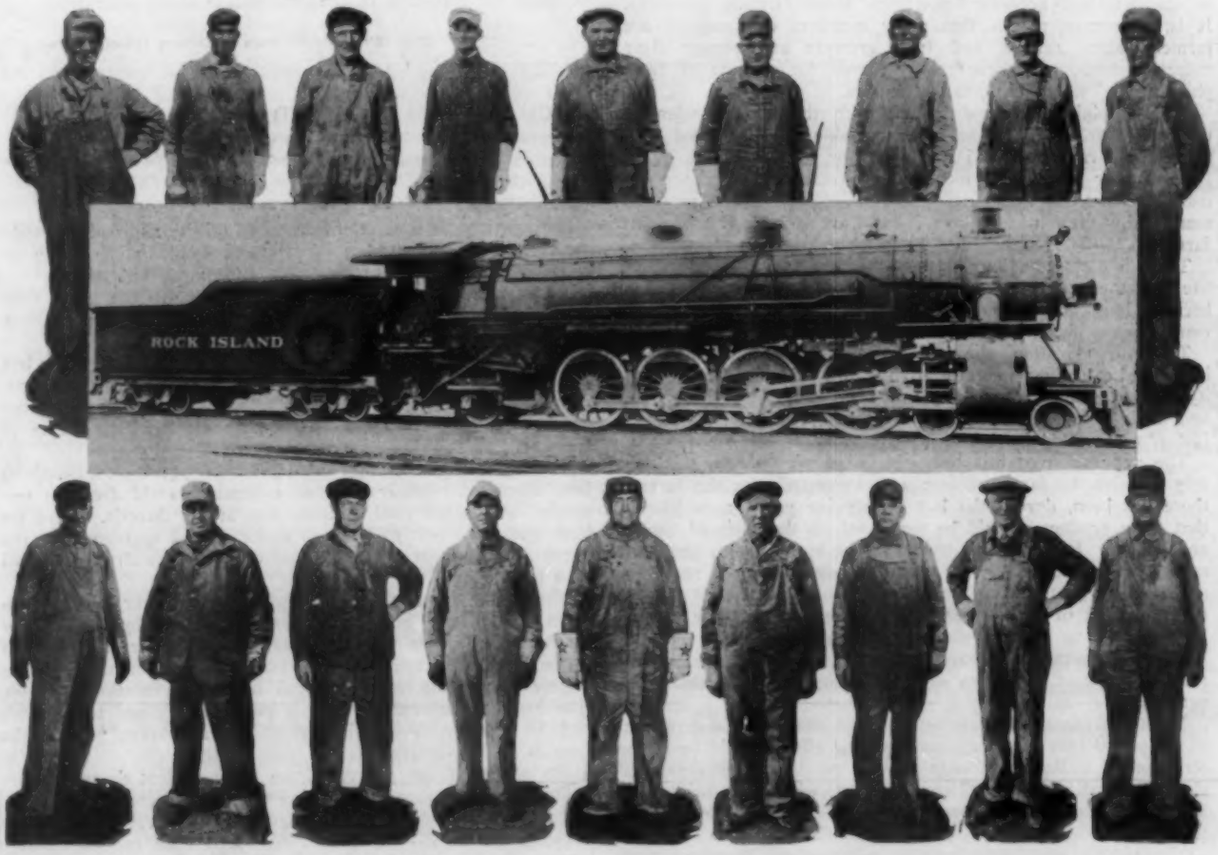
Comment on W. H. Williams' Proposal

When asked to comment on the suggestion made by W. H. Williams that the bill be amended by omitting the power conferred on the Interstate Commerce Commission to impose a condition requiring the inclusion in a proposed consolidation of a road that had not asked to be included, Mr. Thom said he thought it would not be in the public interest to withhold that power from the commission. He had suggested that the commission should not have power to prescribe the terms on which such a road should be included, so that a road could not be forced into a consolidation against its will, but he thought the commission ought to be able to attach conditions to its approval. He said that he had made it a rule not to ask a member of Congress to do anything he would not do himself and that when he had told the railway executives that he would not ask Congress to exclude that power the subject was debated at a meeting and his position was almost unanimously upheld.

Thom Comments on Loree's Suggestion

Asked if he cared to comment on the suggestion made by Mr. Loree that a simple resolution is all the consolidation legislation necessary, Mr. Thom said that his entire statement before the committee constituted comment on such a suggestion. "Mr. Loree thinks that that is all that is necessary," he said, "but that does not create the machinery necessary to carry a consolidation policy into effect. It is the consensus of our law committee that these changes are necessary."

Mr. Benton replied briefly to Mr. Thom, saying that he thought Mr. Thom had "conceded" his point and repeating his request that the bill declare the intent of Congress not to create federal corporations, and the hearings were declared closed. Senator Fess said that he would try to get an executive session of the committee to consider the bill.



From the Rock Island Magazine

Enginemen of the Chicago, Rock Island & Pacific Who Run the Golden State Limited

The route of the Golden State Limited, all-Pullman extra fare, California express train, over the Rock Island Lines, consists of four divisions. The enginemen in the picture, beginning at the upper left are: Benjamin J. Shehan, E. S. Donahue, J. B. McNickle, J. W. Crowley, J. D. McDonald, Ben H. Hawk, A. L. Fletcher, Al. McDonald, John L. Holland, Martin Conway, J. R. Green, Napoleon Briggs, H. V. Payne, John Goodall, Chas. Kourt, C. L. Forbes, Geo. E. Walker, J. B. Dugan.

Communications and Books

Concerning the Farm Problem

CHICAGO.

TO THE EDITOR:

Your editorial on pages 351 and 352 of your issue of January 29, is very pertinent at this time, in view of the annual report of the Secretary of Agriculture.

I differ with you in one respect. That is, I do not believe that the greatest obstacle to the solution of the farm problem is lack of economic organization of the farmers, because there are so many farmers' organizations that the Department of Agriculture advised me, two or three years ago, that they could not keep up with them and could not furnish a list.

The real solution of the farm problem is the elimination of the theorist and the philanthropist. Washington atmosphere is saturated with the spirit of philanthropy, and those who live there, in an official capacity, even for a short time, are constantly pondering over the problem of extending philanthropic guidance to the great American public. Naturally, in this search for an outlet for their kind impulses, the corporations, including the railway corporations, are overlooked.

For some reason, but probably because land is always visible, the average man attempts to connect himself, in some way, with the farm, and if he was never a farmer, he tries to dig up an ancestor who was a farmer in order to justify his assumption of complete and accurate knowledge about farming problems. It is, of course, a fact that many members of Congress are farmers, stock raisers, and fruit growers and occupy their natural habitat, and these help to swell the volume of farm philanthropy when Congress assembles.

In my opinion, the real trouble with the farm problem is the failure to furnish, in an understandable form, the real facts about the farm prices and the outlet for farm products.

As former Secretary Houston said recently, "there are too many farmers," and as a recent writer, who is also a practical man said, a few months ago, "there are a million too many farms."

There is a close analogy between the fessitudes of the farmer's life and the problems and anxieties of railroad transportation, because both are dependent upon various and fluctuating demands, upon uncontrollable competition and upon the weather.

The railroads attack the problems at the source, because, being forced to deliver a certain product at a price fixed by authority beyond their control, the railroads start with this factor and work back to the origin of all products; namely, the human factor, represented by labor.

The application of this principle is, in my opinion, the only way to solve the farm problem, and, fortunately for the farmer, there has been, during the last twenty-five years, a realization that farm products should be purchased on the basis of quality and weight. It is perhaps true that the various laws requiring many farm products to be sold by weight are the result of an effort to protect the consumer, but ultimately they revolve to the benefit of the farmer in the same way that the various laws operate to improve the quality of goods sold to the consumer also operate to reward the honest farmer who, a generation ago, was at the mercy of unscrupulous and dishonest competitors.

More and more it is being realized that the farm should be converted into a factory, and that the effort should be in the direction of utilizing not only modern machinery, but advanced chemistry and all the intelligent research which has, heretofore, been available only to corporations and individuals located off the farms.

The bicycle was made possible, not because it was a two-wheel vehicle, but because someone had the intelligence to realize that the old type of lubrication was deficient, and therefrom the ball bearing axles were invented and the expenditure of muscular power so reduced that the bicycle was made a scientific and practical facility.

Again, it is only within a recent period that this same labor saving device, of a ball bearing axle, has been utilized for vehicles pulled by horses, and yet one who has ever seen a farm vehicle in operation knows that a slight reduction in the resistance would reduce one of the labor problems on the farm very substantially.

Again, it is only within the last few years, in this country and abroad, that it has been realized that the fodder crops can be handled in such a way as to reduce the period of curing, and thus making the farmer independent of the weather.

The combination harvester and thresher is a matter of only about ten years' life, and it has not yet been introduced, to any great extent, into the territory east of the Mississippi river, except possibly in Wisconsin, and yet, as you know, the use of the "combine" as it is called, in the western grain fields last year, produced such a large amount of grain to be moved immediately that there was a strain upon the resources of the railways.

A small gasoline engine on a farm will take the place of six or eight or ten men, and when the farmers learn to use electricity more extensively, there will be a further reduction of manual labor and a greater refinement of living.

The farmer must have a market for his product, and his essential need is accurate data upon that subject, and it would be interesting to know how much money is being spent by the national and state governments for purely agricultural research, including the collection of the information above indicated.

T. C. POWELL,
President Chicago & Eastern Illinois Railway.

The Road Foreman and Other Distractions

CHICAGO.

TO THE EDITOR:

Introductory to a word of warning to the railroads regarding certain passenger train casualties, I would quote a line or two from the address of President Lincoln at Gettysburg:

"It is rather for us to be here dedicated to the great task remaining before us . . . that we here highly resolve that these dead shall not have died in vain."

Some months ago on a Western line a passenger train left the rails on a curve and plunged into a river. The road foreman was at the throttle. The regular engineer stated after the accident that the train entered the curve at too high a rate of speed.

The collision of two high speed passenger trains on a Southern line, discussed recently in your columns, is still fresh in our minds. Again the road foreman was at the throttle. Here we have one more costly lesson to trainmen and enginemen of the importance of a strict and regular compliance with every detail of a train order.

Many road foremen, some of whom were never regular passenger engineers, in some cases encouraged by the master mechanic, are prone to try to "show" the regular engineer that the schedule of heavy passenger trains can be maintained if the engine is properly worked. And so experimentation goes on. The regular engineer, nursing a peeve, is inclined to sit back and let him go to it, winking at known chances because the boss is at the throttle.

No officer of the railroad from the president down is warranted in even temporarily taking the throttle from the regular engineer in charge of a passenger train, except the engineer becomes suddenly incapacitated en route. He cannot possibly concentrate his mind on the job like the regular engineer who has no distracting thoughts of official business.

Neither do I think the road foreman or any other officer should be permitted while riding the engine of a passenger train to "rag" the engineer regarding present or past performance The time for all such lectures and criticism is after the engine is cut off at the end of the trip.

Another evil practice that has crept into passenger service is the assigning to the conductor of clerical work during the trip; work not properly connected with the safe supervision of his train. On many roads you will find the conductor, and sometimes with him the flagman, if the conductor is a poor scholar, huddled in a drawing room, or in a double coach seat labeled "conductor's office" poring over blanks and reports, or, anxiously reading some hot correspondence asking "full explanation by return mail."

The climax to such diversions came to my attention a few days ago when the conductor, on a single track line, where all employees are furnished with business soliciting cards and required to send in at least two "prospects" each week came into the smoking room and observed, "Well, I got that d— thing off my mind. It's near the end of the week and I just caught two fellows I know and got them to sign up." Would he, while importuning these prospects, or while checking up reports in his car office, have caught a train order signal set against his train, pulled the air whistle signal approaching a meeting point or set the brakes if his engineer overlooked a "meet"? *No!* The responsibility is entirely upon the engineer, at least until the road foreman officially relieves him and assumes it all.

To repeat the Gettysburg admonition, let us "highly resolve that these dead shall not have died in vain."

X. H. Cornell.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Bibliography of Illumination 1924-1925, *and* 1925-1926, compiled by the Committee on Illumination, Technology Group, Special Libraries Association. S.L.A. Information Bulletins nos. 3 and 4. Under the heading "Flood Lighting" are listed articles on railroad yard lighting. The material on the electrical code, and on effect of light on eyes, street and highway lighting will also be of interest, as well as the brief historical bibliography in Bulletin no. 4. 24 p. in each. Pub. by Special Libraries Association, New York City.

Clerical Salaries in the United States 1926, by National Industrial Conference Board, Inc. A survey of salaries in 416 establishments of all types, in which 25,879 office employees were employed, and of 11 railroads employing 1497 employees. 59 p. Pub. by National Industrial Conference Board, Inc., New York City. $1.50.

Equality of Opportunity in the Railway Service, by Frank Rackley. No. 198 of the Proceedings 1926-1927 of the Great Western Railway (London) Lecture and Debating Society. 17 p. Pub. by the Society, London, England.

The Iron Road, by Cecil J. Alden. A popular but authoritative book on locomotives and railway operation, containing information on, for example, the smallest railway, remarkable mountain railways, fastest British and other passenger trains, unusual bridges and other matters of interest, printed in large, clear type, and generously illustrated. 192 p. Pub. by John F. Shaw & Co., Ltd., London, England. 6 shillings.

Wages and Hours of Labor in Canada 1920-1926, compiled by Dept. of Labor, Canada. Table of index numbers, 1901-1926, p. 4. Rates of wages and hours of labor of employees on steam railways, etc., p. 17-18. Issued as a Supplement to the Labour Gazette, Jan. 1927. 62 p. Pub. by F. A. Acland, Ottawa, Canada.

Periodical Articles

Come, Let Us Regulate, by William R. Basset and Samuel Crowther. A thoughtful consideration of the outcome and tendencies of a widespread activity. Saturday Evening Post, February 5, 1927, p. 10-11, 64-68.

Transportation, by Arthur Clinton Boggess. What it has been, what it is, and which way it seems to be going. Scientific Monthly, February 1927, p. 155-160.

What Are The Railroads Worth? by Richard Hoadley Tingley. Where valuation stands at present. McNaught's Monthly, February 1927, p. 48-49.

Looking Backward

Fifty Years Ago

The village of Louisville, Ohio, on the Pittsburgh, Ft. Wayne & Chicago, recently passed an ordinance restricting the speed of all trains through the village limits to four miles an hour. The company retaliated by discontinuing the sale of tickets to that station, and not allowing any passengers to be taken on there.—*Railway Age,* February 15, 1877.

The secretary of the Illinois Central, L. A. Catlin, has written to the stockholders, stating in substance that a great decrease in earnings has arisen because of the number of new lines crossing the Illinois Central and the ruinously low rates of freight by rail to the east, which have prevented grain from going to Chicago for lake transportation.—*Chicago Railway Review,* February 10, 1877.

Bankruptcy is apparently to be the fate of the Central Railroad of New Jersey, a property representing a nominal investment of $51,000,000. A year ago its stock was salable at 117; now it is quoted at 14¼. The wages of the employees have not been paid since November. The collapse of the coal combination was the moving cause of the trouble.—*Railway Age,* February 15, 1877.

Twenty-Five Years Ago

Finley J. Shepard, chief clerk to the third vice-president of the Atchison, has been appointed general superintendent of the Santa Fe Coast lines.—*Railroad Gazette.* February 14, 1902.

Surveys have been completed for the San Pedro, Los Angeles & Salt Lake from San Pedro, Cal., via Los Angeles to Salt Lake City, Utah, about 800 miles. Grading is in progress between Los Angeles and Ontario, Cal., 38 miles, and track has been laid on 10 miles of this section.—*Railway Age,* February 14, 1902.

The annual report of the Chicago & North Western shows that the net earnings for 1901 after the payment of fixed charges amounted to 23 per cent on the common stock after paying seven per cent on the preferred.—*Railway and Engineering Review,* February 15, 1902.

Justice Harlan of the United States Supreme Court, on February 3, handed down a decision, affirming the decisions of the lower courts, and upholding the right of the Illinois Central to all of its wharves, freight yards, piers and slips on the lake front at Chicago, north of Randolph street, and to similar property between Twelfth and Sixteenth streets in the vicinity of its roundhouse and main passenger station. The decision ends a suit of 19 years' standing.—*Railroad Gazette,* February 14, 1902.

Ten Years Ago

To further improve and develop its passenger train service the Baltimore & Ohio has issued a circular of instruction to passenger conductors in which it is pointed out that: "Should accident or delay occur to a train, conductors will inform passengers of the cause, taking special care not to unnecessarily alarm them."—*Railway Age Gazette,* February 9, 1917.

Five thousand switchmen employed by 18 railroads in the Chicago switching district have voted to strike unless certain grievances against four lines in the district are adjusted. This is taken to mean that in the event of the annulment of the Adamson law by the United States Supreme Court, no settlement of the pending grievances will be made unless the railroads grant the eight-hour day with ten hours pay and time and one-half for overtime.—*Railway Age Gazette,* February 9, 1917.

Odds and Ends of Railroading

According to "Along the Line" a railway electrician was sneaking upstairs about 3 a.m., when his wife shouted: Watts the matter? Wire you insulate?"

It is said that only a relatively small proportion of maniacs and crazy people are in institutions. This should be apparent to anyone reading about the many highway grade crossing accidents which occur daily.

Even the staid legislative halls in Washington are not without an occasional gleam of humor. Senator Watson supplied a laugh to an otherwise dull day, during the discussion of the appointment of Cyrus E. Woods to the Interstate Commerce Commission, by solemnly remarking: "A man is presumed to be innocent, until he is appointed."

A western railroad is trying a rather novel experiment in an effort to increase the comfort of its passengers. Arm rests are to be removed from the benches in waiting rooms in five of its stations. The idea is to permit a passenger, if he wishes to do so, to lie down while waiting for his train. To those accustomed to barber and valet service with a stenographer subject to call, on the crack trains, the privilege of lying down on a hard wooden bench may not be inviting, but there are those who derive comfort from it; it is a gracious act on the part of the railroad to allow the practice where conditions permit.

Attendant Jimmie Porter, of Parcel Room No. 3, Pennsylvania Station, New York, is a sober man. But for a short time, a week or so ago, he thought he was afflicted with synthetic delirium tremens. It came about in this wise. Jimmie smelled something, an odor he couldn't identify. He investigated further and traced the scent to a piece of hand baggage. When he opened this, there was revealed to his startled eyes one large rattlesnake and eight small rattlesnakes. Fortunately, the cold weather had rendered them slightly torpid. Jimmie lost no time in disposing of the bag and the snakes are now at the Bronx Zoo awaiting their owner.

Many years ago, on the Soo line, a passenger train engineer was having difficulty in stopping his train at just the right spot to take water from the penstock. He ran by and backed up twice before stopping accurately. The general manager happened to be on the train, and wrote the superintendent suggesting that if this engineer could not do better braking the company would have to supply its water stations with India rubber spouts. When he knew the engineer better, the general manager learned to think well of him. The engineer was Daniel Willard, now president of the Baltimore & Ohio, and the general manager was F. D. Underwood, who recently retired as president of the Erie. The story is told by Mr. Willard himself. A valuable lesson, he says.

We recently published some extracts from a brief filed with the Interstate Commerce Commission in the lake cargo coal rate case by District No. 12 of the United Mine Workers suggesting that the commission "protect the existing wage scale" in the unionized mine districts by raising rates from the non-union southern coal mine districts. Senator Peter Norbeck of South Dakota has a constituent who has some ideas of his own as to the modus operandi of getting freight rates regulated. The Senator has put into the Congressional Record a letter from a produce company of that state complaining of the effect on the farmers of an increase in rates on butter, eggs and dressed poultry recently allowed by the commission, which it says it must deduct from the prices it pays the farmers. "In the interest of the farmers," therefore, Senator Norbeck is respectfully urged "to investigate this action of the Interstate Commerce Commisison, and if consistent, have the commission vacate its order in docket 15,823 in so far as it relates to freight rates to Chicago,"—just like that. If this cannot be accomplished, the constituent suggests, "then the commission should postpone the effective date of its order pending further hearing." At any rate the letter did not suggest that the Senator arrange to have eleven farmers and produce dealers appointed members of the commission.

In Which the Man Bites the Dog

"If a dog bites a man, that's not news"

Russel McKinley Crouse, amiable columnist of the New York Evening Post, quotes from the Slater (Mo.) News a report of extensive damage done to a passenger train by a flivver which crashed into it. We have no up-to-date statistic of the number of Fords which have been damaged by trains, but it ought to be safe to designate it as legion. If even the lowly worm will turn, may not the flivver be excused for emulating it just this once?

"An Humble But Sincere Note of Explanation"

Frank A. Wadleigh, passenger traffic manager of the Denver & Rio Grande Western, sends in the following letter received from a Filipino porter on one of that line's observation cars:

I regret very much that being so suddenly and unexpectedly called upon by you this morning to answer and to explain on a note of complaint against me, upon some charges which had happened several days ago, I was put in a position short of chance and time for me to make a recollection, thus naturally resulting in my vague, broken and incomplete explanations of the matters charged against me. Upon this ground I based my excuse in writing you an humble but sincere note of explanation, in which I am duty-bound to relate you the actual happening which had taken place between me and a passenger last Tuesday night, of the 11th instant.

I earnestly ask your kind consideration to spare me, sir, a few moments of your precious time in looking over this note of mine. Here is what exactly took place between me and a passenger, just with only one passenger on the night of Jan. 11, at 8:05 p. m., in train No. 2, eastbound. Just a few moments after train No. 2 made a stop at the station in Soldier Summit, a tall, well built, round-faced, earnestly and honestly looking gentleman standing at the door of the men's smoker with an apparent intention to smoke addressed me thus:

"Say, porter, what is the matter, is there no light in this room?" I was then passing thru the hallway when he addressed me thus. I was sure that he just at that time came in the obs. car. But where he got on and what he was I know not; except that what I knew and thought of him was that he was a passenger. I at once stopped, turned to him and in utmost courtesy and respect answered him thus:

"Sir, kindly excuse me. Yes, there is light in this room." I at the same time turned on the light and he sat down and smoked, and in the form of an explanation I said to him further thus:

"Sir, I happened to turn out the lights in both smokers tonight because there were nobody in, and mainly due to the fact that by so doing it I positively knew that it would make the lights in the body of the car more brighter, where some of the passengers just a while ago called my attention to the sudden dimming off of the lights in the lounge, thus making it hard for them to read. Sir, the stopping or slowing down of the train is the main cause of the lights growing low and dim, because the generator underneath the car, and which charges the lights' battery, quits charging the moment the train stops or slows down, consequently the battery runs down and discharges quickly."

After having finished explaining to him, I tarried in the room for a while, long enough for him to have asked or inquired of me something more. But he asked or inquired of me nothing more, so I went out of the room. Sir, this is the full account of what took place between me and a passenger in train No. 2 eastbound on the night of Jan. 11, at 8:05 p. m., and nothing more. I am hoping and expecting then that my explanations would clear me out of the charges and complaint against me."

NEWS *of the* WEEK

P. R. R.—Photo by C. Parker

C. C. CHILDERS has been elected as a member of the Oklahoma Corporation Commission, succeeding E. R. Hughes.

THE TRAFFIC CLUB OF PITTSBURGH (Pa.) will hold its annual dinner at the William Penn Hotel, Pittsburgh, on March 10.

THE TRANSPORTATION DIVISION of the American Railway Association will hold its annual meeting at the Ambassador Hotel, Atlantic City, N. J., on April 7.

PAT M. NEFF, who was governor of Texas from 1921 to 1925, has been nominated by President Coolidge for appointment as a member of the United States Board of Mediation, for a term expiring on December 31, 1928, succeeding Carl Williams, of Oklahoma, who has resigned on account of his health.

Boston Technical Societies' Meeting

The Affiliated Technical Societies of Boston will hold a meeting on February 17 on the topic of "Industrial Production and Transportation." There will be day sessions at 10 a.m. and 2 p.m. at Huntington Hall, 491 Boylston street, Boston, and the "Annual Affiliation Dinner" at 6:30 p.m., at the Boston Chamber of Commerce building.

The transportation side of the program will be covered by Samuel O. Dunn, editor of the *Railway Age*, who will speak on "Transportation Economics."

Excess Service Reports

Forty-two thousand instances in which railway employees were on duty during the year ended June 30, 1926, for periods in excess of those provided by the hours of service act were reported to the Interstate Commerce Commission by the railroads, according to the summary of the reports issued by the commission. The instances refer to individual employees. In the case of train service employees there were 17,522 instances of service in excess of 16 consecutive hours. The principal classes of contributing causes were: derailments, 4,687; wrecking and relief service, 3,237; congestion of traffic, 2,310; adverse weather conditions, 1,518; coupler and drawbar defects, 1,273; miscellaneous mechanical defects, 557, and miscellaneous causes, 1,277.

The total number compares with 37,497 instances in 1925; 48,222 in 1924; 65,413 in 1923, and 31,683 in 1922.

B. & O. Dispatchers Get Ten Dollars a Day

The Baltimore & Ohio has agreed with its train dispatchers on a monthly maximum salary of $255 for nearly all of the 148 positions. Most of the dispatchers are advanced $10 a month and some of them $15. The standard rate per day under the new schedule is $10. The dispatchers of the Chicago, Indianapolis & Western, which recently has come under the control of the Baltimore & Ohio, receive the increase, although only a short time ago they had been advanced $25 a month. The new schedule provides for two weeks' annual vacation, with pay, for all dispatchers.

Pay Rolls Quarter Billion a Month

The total number of employees reported to the Interstate Commerce Commission by Class I railways as of the middle of the month of November, 1926, was 1,827,954, a decrease of 38,161 or 2 per cent, as compared with the returns for the preceding month. This reduction in employment is said to be attributable largely to seasonal reductions in the maintenance of way forces. The total compensation for the month was $252,494,496, a decrease of 4 per cent. The difference between the percentages of decrease in the number and in the compensation is explained by the fact that there was one less working day in November than in October. Compared with the returns for the corresponding month of 1925, the summary for November, 1926, shows an increase of 2.2 per cent in the number of employees, but owing principally to the fact that November, 1926, had one more working day than November, 1925, the total compensation shows an increase of 4.2 per cent.

Cunningham to Describe Cadet Corps Plan at New York Railroad Club

W. J. Cunningham, James J. Hill, Professor of Transportation, Harvard University, will address the New York Railroad Club at its next meeting, Engineering Societies' Building, New York, 8 p. m., February 18. His subject will be "Training Understudies for Official Positions in Railroad Service"; he will advocate and describe in detail his plan for forming a cadet corps, chosen from college graduates and men from the ranks.

In addition, at this meeting a motion picture of the opening of the Central of New Jersey's Newark Bay bridge will be shown.

Canadian Railways to Build Two Hotels

Through the efforts of the Canadian National a syndicate has been formed to build in Toronto, Ont., a large hotel on a site bounded by Simcoe, Richmond and Queen streets and facing University avenue. Its capacity will be 700 rooms. Sir Henry Thornton, confirming this announcement, said that the Canadian National was not involved financially in the project but the latter would have the entire commercial support of the railway.

Almost coincident with this news came the announcement that the Canadian Pacific had purchased the old and historic Queen's Hotel, opposite the new Union Station, and on that site the railway will build a 1,000-room hotel. Work on both projects will commence almost immediately. It is expected that both hotel projects are closely related to the rapidly approaching opening of the new Union Station for passenger traffic.

This station, completed about ten years ago, has never been used for traffic but only for executive offices, the reason being that its utilization has depended upon the elevation of tracks on the waterfront by the construction of an expensive viaduct. Work on the latter was begun last year and will cost at least $30,000,000. The

(*Continued on page* 490)

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926

Name of road		Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
						Maintenance of										
			Freight.	Passenger.	Total (inc. misc.)	Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.					
Akron, Canton & Youngstown	Dec.	171	$248,119	$660	$264,314	$39,515	$26,024	$12,052	$74,718	$18,476	$179,062	67.7	$85,252	$68,701	$38,111	$26,898
	12 mos.	171	3,166,509	4,967	3,313,877	615,079	355,584	134,794	937,787	198,759	2,237,364	67.5	1,076,513	858,823	438,856	624,433
Ann Arbor	Dec.	293	430,471	28,320	485,374	40,775	99,649	12,026	200,615	11,444	362,082	74.6	123,292	95,367	32,507	58,499
	12 mos.	293	5,371,430	296,890	5,882,293	626,365	1,219,934	143,598	2,325,431	155,500	4,445,258	75.6	1,437,035	1,147,286	969,493	1,028,837
Atchison, Topeka & Santa Fe	Dec.	9,320	12,462,628	3,522,770	17,797,735	1,979,289	3,465,642	394,414	5,902,588	381,256	11,856,095	66.6	5,941,640	4,394,187	4,294,295	3,932,858
	12 mos.	9,281	153,778,647	39,278,701	209,337,546	27,347,396	38,356,068	4,425,582	60,974,912	4,465,804	134,803,586	64.4	74,533,960	55,761,174	55,493,700	45,606,325
Gulf, Colorado & Santa Fe	Dec.	1,944	3,209,477	283,267	3,628,541	557,039	681,246	58,003	1,326,952	66,244	2,676,118	73.8	952,423	821,520	605,782	816,029
	12 mos.	1,917	28,910,693	3,009,684	33,467,548	5,593,892	6,100,115	625,217	10,706,617	775,021	23,739,827	70.9	9,727,721	8,244,686	6,525,674	5,271,601
Panhandle & Santa Fe	Dec.	954	1,491,376	189,247	1,765,004	283,762	337,888	11,309	826,735	21,307	1,473,789	83.5	291,215	266,275	68,270	273,817
	12 mos.	930	13,638,175	1,736,022	16,235,221	1,714,786	2,967,500	120,696	5,219,776	250,641	10,215,895	62.9	6,019,326	5,240,609	4,059,506	2,788,766
Atlanta & West Point	Dec.	93	147,385	68,833	253,251	38,742	44,338	11,918	87,903	13,996	201,783	79.7	51,468	47,237	—103,450	36,711
	12 mos.	93	1,965,828	822,989	3,173,186	405,137	575,293	136,834	1,120,687	144,770	2,443,226	77.0	729,960	544,182	286,038	462,206
Western of Alabama	Dec.	133	155,124	63,999	247,773	87,121	50,502	12,338	65,806	12,566	231,897	93.6	15,876	1,119	—251	61,225
	12 mos.	133	2,262,962	770,588	3,344,018	465,286	651,507	144,125	1,028,399	143,997	2,486,280	74.4	857,738	659,481	641,763	822,977
Atlanta, Birmingham & Atlantic	Dec.	639	360,069	46,389	456,955	106,240	86,146	28,324	175,921	18,063	429,904	94.1	27,051	5,680	—27,447	—183,541
	12 mos.	639	4,649,625	518,168	5,726,345	1,329,382	1,050,888	332,132	2,121,232	219,446	5,205,907	90.9	520,438	345,015	145,418	—71,502
Atlantic Coast Line	Dec.	4,963	5,930,487	1,592,119	8,307,322	1,186,353	1,466,867	186,434	2,858,402	189,693	5,950,911	71.6	2,356,411	1,745,486	1,665,806	1,773,696
	12 mos.	4,931	68,001,687	21,287,079	97,086,517	13,018,940	18,518,916	1,878,173	34,469,601	2,049,715	70,701,771	72.8	26,384,746	19,637,116	17,585,808	20,184,546
Charleston & Western Carolina	Dec.	342	277,630	21,725	311,305	45,650	54,174	8,155	120,103	6,502	234,512	75.3	76,793	40,969	37,145	53,730
	12 mos.	342	3,431,707	271,629	3,862,900	674,723	568,821	89,653	1,491,670	79,646	2,904,397	75.2	958,503	685,551	608,320	753,628
Baltimore & Ohio	Dec.	5,287	17,675,352	2,255,771	21,407,328	2,345,208	4,734,308	457,353	8,333,816	608,409	16,661,599	77.8	4,745,729	3,440,049	3,127,237	3,975,413
	12 mos.	5,291	207,985,595	27,808,659	252,361,830	31,525,661	53,446,119	5,048,399	87,519,068	6,570,015	186,306,274	73.8	66,055,556	53,978,393	50,805,337	43,034,087
Baltimore & Ohio Chicago Term	Dec.	75	.....	.....	304,379	—18,702	64,144	2,191	169,809	14,955	239,968	78.8	64,411	17,882	61,433	62,578
	12 mos.	75	.....	.....	3,821,558	326,830	445,116	23,802	1,964,908	152,871	2,985,746	78.1	835,812	210,308	1,311,140	1,203,524
Staten Island Rapid Transit	Dec.	23	120,529	114,539	256,787	33,494	14,252	2,483	116,722	17,333	184,284	71.8	72,503	55,385	15,738	—132,796
	12 mos.	23	1,317,302	1,480,069	3,212,307	535,650	324,805	25,775	1,331,937	186,321	2,404,488	74.8	807,819	605,787	153,786	—292,018
Bangor & Aroostook	Dec.	615	490,545	86,410	609,923	78,340	177,549	5,102	196,498	25,250	482,933	79.2	126,990	98,003	125,486	82,648
	12 mos.	615	5,852,025	764,640	6,927,602	1,143,112	1,447,214	61,505	1,866,829	274,152	4,829,408	69.7	2,098,194	1,545,502	1,890,047	1,707,091
Belt Ry. Co. of Chicago	Dec.	32	.....	.....	641,132	68,969	80,670	3,242	310,338	10,452	473,671	73.9	167,461	119,049	170,542	162,098
	12 mos.	32	.....	.....	7,654,320	740,992	793,544	39,373	3,491,352	111,942	5,177,207	67.6	2,477,122	1,895,904	2,041,439	1,401,233
Bessemer & Lake Erie	Dec.	228	917,325	14,641	957,697	78,355	327,892	14,076	328,949	68,151	802,323	83.8	155,374	179,748	310,923	96,649
	12 mos.	228	16,489,441	183,869	16,972,124	1,183,874	3,913,207	172,319	4,124,630	431,989	9,825,279	57.9	7,146,845	5,812,800	6,338,983	5,315,147
Bingham & Garfield	Dec.	33	42,324	.....	44,716	5,230	9,297	1,611	11,453	5,159	32,864	73.5	11,852	—7,566	13,062	19,718
	12 mos.	33	533,046	60	563,563	93,987	108,150	17,844	125,791	62,654	410,134	72.8	153,429	51,054	244,978	179,811
Boston & Maine	Dec.	2,161	4,119,538	1,666,680	6,629,718	897,257	1,347,255	71,557	2,883,500	246,214	5,463,192	82.4	1,166,526	879,630	600,642	1,149,700
	12 mos.	2,213	51,813,305	20,058,276	81,625,376	10,998,091	15,189,191	893,999	32,148,847	2,838,019	62,355,456	76.4	19,269,920	16,177,840	12,841,103	12,407,815
Brooklyn Eastern Dist. Terminal	Dec.	9	115,838	.....	122,486	6,379	15,886	100	51,437	12,468	86,270	70.4	36,216	27,624	27,944	55,443
	12 mos.	9	1,438,680	.....	1,523,484	99,776	185,853	4,362	547,318	79,143	916,452	60.2	607,032	512,454	522,259	522 094
Buffalo & Susquehanna R. R. Corp.	Dec.	253	147,735	3,071	157,827	24,197	53,293	1,582	55,119	11,074	145,265	92.0	12,562	16,294	44,594	12,549
	12 mos.	253	1,212,986	31,487	1,307,499	326,699	494,579	22,344	444,653	97,841	1,386,116	106.0	—78,617	—104,832	49,586	111,919
Buffalo, Rochester & Pittsburgh	Dec.	601	1,457,375	118,305	1,631,035	167,290	557,361	30,463	608,123	52,191	1,410,879	86.5	220,156	176,203	227,911	364,956
	12 mos.	601	16,515,592	1,250,011	18,423,273	2,257,887	5,253,615	342,671	6,445,997	539,991	14,851,592	80.6	3,571,681	2,966,552	3,292,978	2,650,758
Canadian Pacific Lines in Maine	Dec.	233	255,319	43,911	312,370	18,203	54,222	7,422	142,281	4,155	226,283	72.4	86,087	72,175	47,373	55,236
	12 mos.	233	1,940,186	373,349	2,471,864	498,701	522,500	67,736	1,135,118	41,525	2,265,580	91.7	206,284	46,872	—100,881	—305,998
Central of Georgia	Dec.	1,911	1,779,964	448,459	2,494,729	302,114	459,756	83,881	928,674	105,509	1,867,429	74.9	627,300	482,977	468,348	583,654
	12 mos.	1,915	23,072,256	5,907,478	31,850,097	4,496,326	5,498,449	931,545	11,659,308	1,192,510	23,772,538	74.6	8,077,559	6,544,301	5,973,914	5,467,745
Central New Jersey	Dec.	690	3,940,234	713,261	4,979,352	1,599,040	1,803,185	40,735	2,156,496	119,269	5,723,378	114.9	—744,026	—1,043,198	—1,083,780	—335,831
	12 mos.	690	46,779,738	9,467,347	60,171,118	6,777,562	14,408,216	536,857	22,517,902	1,504,506	45,993,621	76.4	14,177,497	9,318,825	8,051,535	7,753,462
Central Vermont	Dec.	433	603,689	81,762	757,399	101,319	110,134	120,002	321,555	25,154	580,427	76.6	176,972	163,575	141,776	108,411
	12 mos.	433	6,860,719	1,328,154	9,089,724	1,708,049	1,357,009	206,717	3,859,390	276,977	7,426,750	81.7	1,662,974	1,439,154	1,209,374	650,512
Chesapeake & Ohio	Dec.	2,650	10,466,954	822,204	11,813,400	1,227,214	2,376,959	137,459	3,434,563	260,346	7,468,825	63.2	4,344,575	3,241,098	3,305,452	2,339,538
	12 mos.	2,646	119,155,158	9,082,097	133,974,030	19,059,977	30,667,371	1,438,937	36,415,924	3,004,814	90,970,788	67.9	43,003,242	34,747,619	37,011,025	30,297,044
Chicago & Alton	Dec.	1,055	1,874,249	586,993	2,732,359	273,016	513,886	66,900	983,721	58,215	1,897,005	69.4	835,354	788,973	622,083	397,331
	12 mos.	1,055	22,099,283	6,574,551	31,474,823	4,191,780	7,256,915	838,915	11,315,490	737,014	24,209,304	76.9	7,265,519	6,022,651	3,986,403	4,547,871
Chicago & Eastern Illinois	Dec.	945	1,882,696	402,317	2,488,774	213,419	586,910	74,099	977,518	78,516	1,944,141	78.1	544,633	356,554	281,108	375,856
	12 mos.	945	21,414,226	4,680,587	28,251,750	3,044,951	7,241,196	948,621	10,349,069	844,129	22,605,950	80.0	5,645,800	3,993,866	2,608,542	2,148,267
Chicago & Illinois Midland	Dec.	Not yet filed.														
	12 mos.	Not yet filed.														
Chicago & North Western	Dec.	8,460	7,540,594	2,430,499	11,774,656	2,189,643	2,963,280	215,043	4,992,409	341,311	10,771,222	91.5	1,003,434	321,014	271,887	1,354,143
	12 mos.	8,458	110,229,475	26,592,517	154,335,724	23,290,736	31,917,474	2,453,744	58,127,866	4,075,241	120,588,383	78.1	33,747,341	24,429,447	22,295,139	21,108,750

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road		Average mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
Chicago, Burlington & Quincy	Dec.	9,399	$9,826,544	$2,002,928	$13,154,849	$2,494,960	$2,336,800	$254,270	$4,839,197	$370,346	$10,315,834	78.4	$2,839,015	$2,219,854	$1,879,164	$2,337,978
	12 mos.	9,403	121,410,650	24,288,307	161,317,442	23,965,178	30,131,658	3,084,633	54,315,494	4,303,939	116,462,808	72.2	44,854,634	33,315,489	29,955,831	28,131,917
Chicago Great Western	Dec.	1,496	1,514,368	312,707	2,016,795	158,606	371,520	74,208	880,661	70,968	1,568,180	77.8	448,615	323,551	170,618	251,118
	12 mos.	1,496	20,031,749	3,382,717	25,359,001	3,422,674	4,991,566	921,448	9,854,747	705,586	20,027,496	79.0	5,331,505	4,196,202	2,467,147	2,087,913
Chicago, Indianapolis & Louisville	Dec.	650	1,173,346	217,008	1,552,846	145,800	278,216	41,594	602,832	35,258	1,118,699	72.0	434,147	338,856	226,569	430,315
	12 mos.	648	14,107,670	2,684,182	18,598,066	1,799,734	3,867,302	446,373	6,621,311	417,662	13,327,121	71.7	5,270,945	4,212,721	2,979,140	2,843,523
Chicago, Milwaukee & St. Paul	Dec.	11,200	9,303,523	1,711,781	12,430,900	1,288,267	3,212,902	258,705	5,259,779	352,139	10,434,087	83.9	1,996,813	1,270,077	862,280	2,281,268
	12 mos.	11,192	124,405,026	19,596,028	160,538,440	24,056,868	36,458,014	3,040,054	59,986,505	4,151,455	128,401,168	80.0	32,137,272	23,200,202	18,394,933	16,873,636
Chicago River & Indiana	Dec.	19	.....	.....	580,576	51,546	106,972	968	219,936	27,705	407,127	70.1	173,449	173,464	286,802	289,190
	12 mos.	19	.....	.....	6,931,271	720,138	948,177	9,913	2,632,662	210,107	4,520,997	65.2	2,410,274	1,906,508	3,302,300	2,963,694
Chicago, Rock Island & Pacific	Dec.	7,561	7,840,213	2,123,867	11,017,098	1,301,674	2,206,760	239,944	4,135,878	323,768	8,171,894	74.2	2,845,204	2,273,952	1,890,474	1,961,497
	12 mos.	7,565	96,602,741	22,869,299	130,768,558	16,351,897	27,728,492	2,787,381	47,285,453	3,735,349	98,126,841	75.0	32,641,717	25,399,763	20,484,478	16,693,040
Chicago, Rock Island & Gulf	Dec.	458	517,330	91,586	656,096	75,310	65,629	20,135	231,092	18,256	409,692	62.4	246,404	179,520	156,855	184,636
	12 mos.	458	5,600,282	987,818	7,142,857	793,211	879,316	234,246	2,563,035	199,486	4,685,415	65.6	2,457,442	2,140,697	1,872,650	1,233,344
Chic., St. Paul, Minn. & Omaha	Dec.	1,746	1,513,281	474,211	2,202,857	181,614	389,969	34,114	1,002,181	76,184	1,689,374	76.7	513,483	431,361	340,742	318,869
	12 mos.	1,802	19,348,006	4,937,997	26,433,019	3,793,837	4,588,978	415,434	11,174,461	907,777	21,272,949	80.5	5,160,070	3,873,197	3,180,089	3,221,619
Cincinnati, Indianpolis & Western	Dec.	347	377,887	28,227	435,714	121,136	510,657	16,015	193,736	16,341	859,082	197.2	—423,368	—441,879	—480,652	46,682
	12 mos.	347	4,295,716	324,446	4,940,769	1,061,236	1,582,782	192,529	1,946,531	211,891	5,004,703	101.3	—63,334	—283,179	—724,955	300,519
Clinchfield Railroad	Dec.	309	634,554	30,967	682,062	73,899	175,850	23,917	147,857	18,774	440,141	64.5	241,921	81,848	205,012	81,463
	12 mos.	309	7,814,282	311,765	8,282,199	870,192	2,134,088	271,900	1,608,735	239,146	5,115,595	61.8	3,166,604	2,196,355	3,513,953	3,262,439
Colorado & Southern	Dec.	1,054	1,109,055	118,403	1,301,666	203,163	260,451	12,497	450,647	44,019	976,249	75.0	325,417	267,146	233,171	156,973
	12 mos.	1,056	10,557,003	1,515,154	13,152,809	1,960,374	2,875,774	177,315	4,649,701	513,369	10,262,595	78.0	2,889,914	2,130,886	1,856,544	1,617,166
Ft. Worth & Denver City	Dec.	491	951,501	298,642	1,328,809	112,546	201,320	16,460	381,616	37,700	756,046	56.9	572,763	491,098	478,966	450,986
	12 mos.	491	9,714,797	2,725,790	13,298,548	1,053,840	2,168,940	207,832	3,841,083	460,917	7,835,313	58.9	5,463,235	4,594,010	4,383,571	3,521,773
Wichita Valley	Dec.	271	179,318	32,388	222,608	18,999	8,654	54	55,703	1,618	84,820	38.1	137,788	130,973	105,320	86,448
	12 mos.	271	1,368,116	246,424	1,721,449	200,410	110,387	291	552,738	21,583	875,112	50.0	846,337	735,036	480,822	522,544
Columbus & Greenville	Dec.	167	129,914	24,807	165,083	41,916	12,547	3,501	49,044	9,940	116,846	70.8	48,237	13,839	—5,044	21,052
	12 mos.	167	1,523,173	279,193	1,922,285	486,294	223,847	38,751	659,571	122,499	1,528,932	79.5	393,353	342,911	144,519	75,812
Delaware & Hudson	Dec.	881	3,325,749	283,277	3,820,094	576,982	1,103,503	56,036	1,385,948	227,598	3,377,795	88.4	442,299	159,286	155,236	123,813
	12 mos.	881	40,041,210	3,715,426	46,372,172	5,328,972	11,484,684	618,544	15,355,621	1,792,087	34,812,140	75.1	11,560,032	9,959,898	9,927,015	6,823 039
Delaware, Lackawanna & Western	Dec.	999	5,233,210	1,140,687	7,271,664	706,087	1,352,114	132,855	3,164,142	178,354	5,593,764	76.9	1,677,900	1,284,038	1,260,345	814,524
	12 mos.	996	65,179,892	13,340,976	88,823,202	8,593,771	16,354,952	1,586,213	33,122,859	2,111,994	62,424,221	70.3	26,388,981	18,707.396	19,287,962	14,892,121
Denver & Rio Grande Western	Dec.	2,554	2,195,512	301,633	2,728,243	354,066	684,333	64,620	886,278	89,957	2,104,193	77.1	624,050	373,904	417,207	637,487
	12 mos.	2,562	26,907,818	4,494,547	34,030,309	5,899,265	6,242,158	675,673	10,304,180	1,051,033	24,614,314	72.3	9,415,995	6,981,823	7,609,802	6,758,785
Denver & Salt Lake	Dec.	Not yet filed.														
	12 mos.	Not yet filed.														
Detroit & Mackinac	Dec.	375	72,747	21,006	106,751	16,282	31,426	2,004	51,557	8,552	109,921	103.	—3,170	—13,734	—11,382	27,118
	12 mos.	375	1,228,784	234,977	1,620,950	335,219	424,609	22,762	597,615	69,483	1,448,331	89.1	177,619	63,910	134,176	209,439
Detroit & Toledo Shore Line	Dec.	50	450,589	.....	457,870	38,222	44,862	3,593	126,148	15,008	227,833	49.8	230,037	184,960	79,656	104,343
	12 mos.	50	4,731,981	.....	4,781,204	548,082	448,481	40,305	1,198,660	108,966	2,344,494	49.0	2,436,710	2,108,123	1,050,561	844,572
Detroit Terminal	Dec.	19	.....	.....	116,317	18,669	33,497	.....	79,039	3,516	134,721	115.8	—18,404	—35,518	—45,676	7,511
	12 mos.	19	.....	.....	2,486,459	369,224	212,692	9	1,281,461	43,349	1,906,735	76.7	579,724	392,624	358,305	680,696
Detroit, Toledo & Ironton	Dec.	485	734,266	6,387	759,827	183,008	158,444	15,700	295,914	46,772	688,364	90.6	71,463	17,662	—51,553	273,643
	12 mos.	486	12,594,960	96,978	12,891,530	2,179,090	2,362,132	136,697	3,756,898	424,538	8,793,104	68.2	4,098,426	3,334,926	2,075,275	3,614,644
Duluth & Iron Range	Dec.	274	60,559	10,139	87,649	74,842	119,073	2,307	98,191	58,297	352,631	402.3	—264,982	—313,751	—310,228	—327,522
	12 mos.	275	6,090,080	77,937	7,041,389	1,070,834	1,309,273	18,299	1,905,534	286,304	4,591,468	65.2	2,449,921	1,899,289	1,941,807	1,589,497
Duluth, Missabe & Northern	Dec.	305	82,809	9,078	110,235	120,933	226,807	2,994	155,889	48,980	554,970	503.4	—444,735	—517,469	—510,623	—540,408
	12 mos.	306	16,636,205	74,938	18,943,968	2,105,931	2,398,074	34,692	3,492,130	331,788	8,367,382	44.2	10,576,586	8,102,126	8,051,431	8,123,036
Duluth, Winnipeg & Pacific	Dec.	178	191,338	22,794	224,967	83,072	60,879	4,639	169,959	6,464	325,429	144.6	—100,462	—111,305	—107,663	25,220
	12 mos.	178	2,089,767	209,834	2,415,384	509,816	533,314	52,211	933,904	101,448	2,245,960	92.9	169,424	49,803	101,447	271,900
Elgin, Joliet & Eastern	Dec.	460	1,950,686	25	2,109,232	225,083	405,880	14,125	772,700	83,032	1,500,572	71.1	608,660	382,897	223,826	117,294
	12 mos.	459	24,279,305	337	26,432,112	2,386,204	5,428,515	166,522	8,664,087	590,664	17,231,781	65.2	9,200,331	7,765,293	5,696,353	4,017,842
Erie Railroad	Dec.	2,653	6,992,413	1,040,296	8,814,564	791,405	2,399,495	150,406	3,847,735	307,099	7,544,349	85.6	1,270,215	1,109,773	1,241,261	880,684
	12 mos.	2,653	89,012,090	12,309,532	110,574,019	12,618,689	28,491,109	1,780,306	43,531,959	3,468,513	90,386,252	81.7	20,187,767	15,792,532	16,527,744	15,802,068
Chicago & Erie	Dec.	269	594,727	64,977	1,165,104	120,148	138,514	23,514	432,053	42,931	757,596	65.0	407,508	448,607	121,619	385,917
	12 mos.	269	12,967,076	705,225	14,899,485	1,583,755	1,721,327	276,814	4,717,963	490,902	8,787,244	59.0	6,112,241	5,593,938	1,524,979	1,728,551
New Jersey & New York	Dec.	45	25,679	99,689	132,262	15,353	29,082	1,739	80,257	4,151	130,563	98.7	1,699	999	—31,307	—25,489
	12 mos.	45	339,883	1,191,993	1,602,299	196,546	272,594	19,277	859,609	50,693	1,398,606	87.3	203,693	161,742	—225,756	—196,527
N. Y., Susquehanna & Western	Dec.	135	351,703	51,260	445,855	44,372	64,460	4,691	251,389	12,207	377,107	84.6	68,748	53,609	21,523	—55,712
	12 mos.	135	3,834,810	618,725	5,007,416	636,616	808,203	55,596	2,367,956	146,177	4,014,411	80.2	993,005	667,133	499,429	367,804

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road		Average mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
Evansville, Indianap's & Terre Haute	Dec.	146	$231,361	$6,567	$245,248	$35,631	$33,808	$1,869	$71,584	$3,301	$146,193	59.6	$99,055	$91,864	$49,261	$91,355
	12 mos.	146	2,480,923	63,903	2,627,307	368,886	382,215	23,788	852,599	74,045	1,706,232	64.7	927,075	845,586	386,420	437,751
Florida East Coast	Dec.	849	1,456,754	615,972	2,504,920	537,773	351,622	63,218	769,308	83,973	1,849,860	73.8	655,060	563,579	425,946	346,522
	12 mos.	849	17,161,562	3,779,486	29,427,459	4,904,666	4,323,940	419,791	10,593,578	728,801	20,406,598	69.3	9,020,861	7,456,748	5,167,479	5,337,049
Fort Smith & Western	Dec.	249	136,371	17,102	162,021	28,303	27,379	5,757	57,644	7,617	126,205	77.9	35,816	34,243	22,362	16,829
	12 mos.	249	1,506,762	171,080	1,773,705	346,288	233,126	67,614	590,415	91,273	1,425,287	80.4	348,418	285,897	119,176	289,475
Galveston Wharf	Dec.	13	.....	.....	210,613	41,353	4,921	1,612	42,799	7,029	122,891	58.3	87,722	—24,095	—24,644	36,944
	12 mos.	13	.....	.....	2,007,301	518,240	57,642	16,628	458,381	43,646	1,261,557	62.8	745,744	408,843	407,203	203,577
Georgia R. R.	Dec.	328	249,695	87,599	473,117	61,817	102,986	23,204	195,589	22,450	405,726	85.8	67,391	8,427	336,866	123,813
	12 mos.	328	4,726,420	1,002,128	6,122,691	684,152	1,170,466	271,029	2,486,299	263,455	4,875,908	79.6	1,246,693	1,049,905	1,373,184	1,037,824
Georgia & Florida	Dec.	406	118,546	20,947	147,268	22,736	18,368	8,969	61,166	7,754	119,219	80.9	28,049	26,897	16,440	27,557
	12 mos.	406	1,600,384	259,235	1,972,838	286,398	231,792	104,764	724,445	98,485	1,448,572	73.4	524,266	445,679	235,073	265,581
Grand Trunk Western	Dec.	347	1,204,250	185,263	1,487,375	118,467	224,359	40,246	575,651	57,973	1,021,375	68.7	466,000	402,062	295,062	363,080
	12 mos.	347	17,291,566	2,273,263	20,590,515	2,361,969	4,385,237	458,771	6,887,712	708,390	14,914,074	72.4	5,676,441	4,706,229	3,088,777	1,984,651
Atlantic & St. Lawrence	Dec.	166	225,495	33,234	275,483	25,869	27,238	5,421	140,664	8,110	208,672	75.7	66,811	52,151	—3,242	103,199
	12 mos.	166	2,025,984	392,017	2,643,594	458,205	402,017	66,913	1,296,363	101,033	2,341,936	88.6	301,658	141,907	—564,057	—758,607
Chic., Det. & Canada Gr. Tr. Jct.	Dec.	59	265,755	3,500	313,563	13,158	10,519	3,812	114,315	4,443	146,283	46.7	167,280	222,276	190,976	226,534
	12 mos.	59	3,205,353	30,856	3,795,576	446,597	206,136	49,412	1,218,656	49,563	1,962,636	51.7	1,832,940	1,707,625	1,265,037	1,203,082
Detroit Grand Haven & Milwaukee	Dec.	189	449,495	33,850	541,947	49,736	33,973	12,970	255,735	15,155	366,525	67.6	175,422	175,865	81,165	97,119
	12 mos.	189	6,976,412	407,311	8,055,114	725,834	642,297	143,360	3,113,030	188,628	4,807,570	59.7	3,247,544	3,139,277	1,874,898	1,141,558
Great Northern	Dec.	8,163	5,953,502	1,244,850	8,111,043	677,116	1,340,835	238,502	3,092,466	215,243	5,648,102	69.6	2,462,941	1,658,221	1,718,717	2,198,171
	12 mos.	8,188	93,346,740	13,041,085	117,383,509	14,140,177	17,856,698	2,639,978	37,294,132	2,621,005	75,285,464	64.1	42,098,445	32,383,299	31,280,429	28,276,183
Green Bay & Western	Dec.	234	114,296	9,070	130,178	35,921	11,675	3,629	56,511	3,115	110,532	84.9	19,646	10,021	6,712	27,892
	12 mos.	234	1,493,372	79,948	1,645,802	320,857	277,934	55,045	582,814	35,161	1,271,312	77.2	374,490	260,724	245,194	264,692
Gulf & Ship Island	Dec.	307	265,464	41,803	248,744	168,109	66,778	5,850	134,429	8,440	297,004	119.4	—48,260	—114,819	—128,983	—41,198
	12 mos.	307	3,207,637	531,593	3,957,234	2,054,503	793,278	62,501	1,550,812	86,270	4,493,459	113.6	—536,225	—882,900	—1,080,651	283,281
Gulf, Mobile & Northern	Dec.	611	436,867	36,996	495,539	71,799	74,533	25,473	156,713	29,356	358,158	72.27	137,431	117,730	109,729	91,776
	12 mos.	526	5,729,758	375,323	6,369,584	1,006,295	971,574	265,029	1,772,561	283,335	4,340,927	68.15	2,028,657	1,509,730	1,412,885	1,389,969
Hocking Valley	Dec.	348	1,176,607	72,987	1,332,183	181,970	426,664	16,936	496,585	51,712	1,173,711	88.1	158,472	69,216	146,541	369,841
	12 mos.	348	16,995,351	785,524	19,550,258	2,389,905	5,030,627	185,156	5,717,221	505,417	13,836,111	70.7	5,724,147	4,391,815	4,197,035	3,619,213
Illinois Central	Dec.	4,874	9,774,386	2,241,680	12,989,792	1,705,628	3,251,877	284,963	4,598,367	364,405	10,240,165	78.8	2,749,627	2,092,619	2,047,757	2,276,388
	12 mos.	4,874	122,508,734	24,237,343	158,328,258	22,543,100	36,644,320	3,016,125	54,772,246	4,032,272	121,678,777	76.9	36,649,481	26,301,489	26,202,012	25,113,866
Yazoo & Mississippi Valley	Dec.	1,710	1,996,307	431,986	2,624,454	455,753	458,561	52,588	841,516	74,763	1,886,417	71.9	738,037	654,387	571,874	445,749
	12 mos.	1,572	22,468,274	4,019,054	28,198,521	5,213,146	4,996,352	517,977	9,805,201	811,632	21,341,462	75.7	6,857,059	4,824,958	3,998,521	4,813,077
Illinois Central System	Dec.	6,584	11,757,688	2,673,664	15,601,447	2,158,918	3,703,664	337,242	5,442,429	443,663	12,124,082	77.7	3,477,365	2,727,926	2,600,026	2,825,177
	12 mos.	6,584	147,289,280	28,780,789	189,593,464	28,544,158	42,345,194	3,653,304	65,803,472	5,073,490	145,905,880	77.0	43,687,584	30,858,964	29,875,941	31,258,113
Kansas City, Mexico & Orient	Dec.	272	260,038	11,291	281,511	44,867	—6,055	7,369	78,169	159,989	284,315	136.5	—2,804	—6,858	6,317	54,086
	12 mos.	272	2,215,246	95,166	2,422,970	685,500	526,874	84,280	785,045	396,514	2,477,016	102.2	—54,046	—116,452	58,557	56,572
Kans. City, Mex. & Orient of Tex.	Dec.	465	429,384	27,627	475,655	123,084	25,188	8,131	146,872	34,779	337,749	71.0	137,906	130,906	61,171	—239,376
	12 mos.	465	3,944,396	221,269	4,317,801	1,144,462	832,510	95,271	1,286,538	142,495	3,500,254	81.1	817,547	731,001	191,129	32,472
Kansas City Southern	Dec.	784	1,169,438	127,599	1,469,688	191,340	252,803	57,043	464,189	85,969	1,046,146	71.2	423,542	341,575	303,021	293,000
	12 mos.	784	15,532,611	1,483,154	18,902,335	2,208,121	3,226,161	612,979	5,924,251	948,835	12,902,866	68.3	5,999,469	4,759,753	4,212,152	3,720,748
Texarkana & Ft. Smith	Dec.	81	245,003	11,888	277,074	38,974	24,622	7,068	82,524	12,382	167,042	60.3	110,032	93,322	56,879	70,351
	12 mos.	81	2,664,185	132,404	3,019,611	298,034	287,618	74,891	842,723	127,199	1,645,792	54.5	1,373,819	1,169,834	791,690	772,678
Kansas, Oklahoma & Gulf	Dec.	Not yet filed.														
	12 mos.	Not yet filed.														
Lake Superior & Ishpeming	Dec.	160	52,456	4,590	71,472	28,497	29,068	1,236	37,069	9,582	105,419	147.5	—33,947	—45,366	—50,117	—64,196
	12 mos.	160	2,100,250	40,291	2,451,312	452,343	296,496	7,684	616,675	64,130	1,437,053	58.6	1,014,259	750,582	722,126	612,858
Lake Terminal	Dec.	13	.....	.....	91,732	14,334	20,860	.....	58,260	2,496	96,050	104.7	—4,318	—8,954	—17,966	2,214
	12 mos.	13	.....	.....	1,181,021	163,030	219,284	.....	662,032	22,341	1,066,687	90.3	114,334	39,441	—2,662	26,173
Lehigh & Hudson River	Dec.	96	334,567	2,092	365,231	57,071	49,771	1,935	158,150	16,361	283,266	77.6	81,965	67,578	20,131	—17,889
	12 mos.	96	3,302,064	25,523	3,567,884	422,464	465,023	22,818	1,281,927	150,938	2,343,112	65.7	1,224,772	1,020,985	691,313	378,422
Lehigh & New England	Dec.	217	409,278	1,266	417,862	53,750	92,529	5,747	150,430	17,687	320,421	76.7	97,441	86,241	93,765	—97,376
	12 mos.	219	5,548,539	15,433	5,662,328	593,650	1,153,708	64,157	1,716,128	175,133	3,698,825	65.3	1,963,503	1,668,319	1,707,436	1,034,197
Lehigh Valley	Dec.	1,363	5,531,689	654,567	6,744,164	842,747	1,528,455	137,030	2,844,268	143,719	5,528,497	82.0	1,215,667	977,396	779,455	582,188
	12 mos.	1,363	66,782,592	7,936,047	80,453,150	9,176,529	17,190,980	1,573,921	30,935,758	1,674,231	60,958,636	75.8	19,494,514	15,288,738	13,802,605	12,494,980
Louisiana & Arkansas	Dec.	302	329,125	19,865	363,136	59,369	58,945	13,226	107,259	12,541	251,135	69.2	112,001	80,669	66,652	100,618
	12 mos.	302	3,953,510	220,952	4,295,438	649,396	686,511	139,478	1,212,249	140,681	2,823,442	65.7	1,471,996	1,059,094	860,923	863,230
Louisiana Ry. & Nav. Co.	Dec.	337	293,943	19,385	333,856	66,889	43,633	10,897	144,221	10,341	273,538	81.9	60,318	37,226	—651	15,970
	12 mos.	337	3,399,877	223,950	3,830,970	724,462	572,410	139,160	1,630,210	122,401	3,142,788	82.0	688,182	421,085	—15,623	31,199

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road		Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
			Freight.	Passenger.	Total (inc. misc.)	Maintenance of—Way and structures.	Maintenance of—Equipment.	Traffic.	Transportation.	General.	Total.					
Louisiana Ry. & Nav. Co. of Tex.	Dec.	206	$86,017	$6,293	$96,546	$13,985	—$1,609	$4,734	$45,503	$6,991	$69,599	72.1	$26,917	$26,562	$7,547	$29,187
	12 mos.	206	1,167,561	72,138	1,300,874	232,591	175,564	39,193	529,108	72,841	1,119,905	86.1	180,969	136,160	—84,960	2,913
Louisville & Nashville	Dec.	5,034	9,365,904	1,900,822	12,096,165	2,081,812	2,8-2,438	355,861	4,386,772	319,731	9,988,930	82.6	2,107,235	1,556,359	1,423,658	2,227,090
	12 mos.	5,038	116,617,329	22,142,710	147,136,531	21,715,672	33,029,477	3,061,003	50,658,351	3,578,554	112,462,391	76.4	34,674,140	26,722,760	27,039,319	26,938,619
Louisville, Henderson & St. Louis	Dec.	199	254,388	55,311	326,328	64,293	64,892	8,986	118,941	11,266	268,378	82.2	57,950	46,460	34,326	—4,994
	12 mos.	199	2,920,044	634,971	3,756,644	824,444	565,752	92,198	1,244,712	127 048	2,854,154	76.0	902,490	675,504	601,499	743 769
Maine Central	Dec.	1,121	1,124,359	345,921	1,674,933	194,105	508,516	14,774	703,813	51,558	1,272,341	76.0	402,592	282,493	194,332	265,097
	12 mos.	1,121	14,590,483	3,914,919	20,423,812	3,013,981	3,872,810	172,182	8,162,015	605,097	15,843,270	77.6	4,580,542	3,349,048	3,133,026	3,104,329
Midland Valley	Dec.	364	296,023	36,399	344,693	47,262	49,571	10,139	97,753	20,121	222,383	64.5	122,310	86,069	67,370	78,065
	12 mos.	364	3,781,930	378,352	4,314,245	711,145	459,443	82,460	1,083,598	230,058	2,551,732	59.1	1,762,513	1,511,759	1,297,473	1,190,359
Minneapolis & St. Louis	Dec.	1,627	983,971	128,153	1,178,881	131,858	207,207	39,537	590,377	45,736	1,103,896	93.6	74,985	12,038	—35,481	140,627
	12 mos.	1,637	12,792,275	1,144,075	14,733,725	2,459,003	3,384,039	435,363	6,615,980	520,140	13,305,390	90.3	1,428,335	674,891	222,173	363,865
Minneapolis, St. Paul & S. S. Marie	Dec.	4,396	2,573,129	556,432	3,442,229	405,522	643,013	70,135	1,489,515	114,488	2,733,694	79.4	708,535	523,936	424,032	588,427
	12 mos.	4,400	36,745,437	5,077,332	45,856,738	6,526,430	8,846,291	880,997	17,829,202	1,377,746	35,696,798	76.2	11,159,940	8,347,407	7,007,261	8,959,230
Duluth, South Shore & Atlantic	Dec.	589	250,885	91,997	376,638	61,573	74,416	7,865	201,774	11 086	360,558	95.7	16,080	—11,039	—23,380	—14,754
	12 mos.	590	3,860,155	916,435	5,281,270	934,579	919,641	87,208	2,276,449	137,281	4,406,891	83.4	874,379	528,259	342,094	618,694
Spokane International	Dec.	165	80,263	13,557	101,325	11,186	7,176	3,455	35,370	6,395	64,540	63.8	36,685	30,585	23,995	24,454
	12 mos.	165	1,039,901	143,321	1,265,290	193,557	98,084	41,336	391,181	75,576	812,571	64.2	452,719	385,548	290.212	255,882
Mississippi Central	Dec.	161	127,818	11,723	144,992	14,744	24,067	8,816	58,181	9.090	111,467	76.9	33,525	27,739	27,048	67,277
	12 mos.	161	1,502,182	129,892	1,688,878	243,223	304,227	98,780	467,748	99,364	1,210,876	71.7	478,002	356,287	422,939	472,307
Missouri & North Arkansas	Dec.	364	115,115	16,757	143,343	59,844	13,000	9,818	62,672	6,904	152,238	106.2	—8,895	—11,301	—22,645	—41,182
	12 mos.	364	1,445,162	199,877	1,759,085	583,050	283,843	109,950	679,614	88,803	1,745,260	99.2	13,825	—14,610	—160,392	—38,099
Missouri-Kansas-Texas	Dec.	1,799	2,311,102	401,676	2,954,302	395,071	563,680	70,347	800,042	152,201	1,989,338	67.3	964,964	718,309	781,490	816,271
	12 mos.	1,799	28,410,077	4,534,051	35,532,896	4,251,656	8,433,443	754,831	8,983,558	1,194,675	23,648,621	66.6	11,884,275	9,115,362	9,520,902	10,392.658
Missouri-Kansas-Texas of Texas	Dec.	1,389	1,515,178	397,906	2,098,147	295,326	161,303	49,464	805,874	67,725	1,376,601	65.6	721,546	683,710	497,443	445,935
	12 mos.	1,389	16,640,687	4,135,846	22,567,869	3,567,051	2,769,562	565,087	8,642,397	790,084	16,330,449	72.4	6,237,420	5,609,809	3,479,360	2,432,966
Missouri Pacific	Dec.	7,406	8,600.234	1,351,829	10,821,699	1,630,727	1,934,725	347,872	4,194,131	355,429	8,436,538	78.0	2,385.161	1,897,015	1,584,049	1,553.454
	12 mos.	7,351	107,913,649	16,035,972	133,990,294	21,262,028	26,532,577	3,533,471	47,481,048	4,040,780	102,851,944	76.8	31,138,350	25,488,846	20,333,786	18,013,064
Gulf Coast Lines	Dec.	973	1,085,728	210,887	1,383,458	399,160	293,929	36,119	353,310	61,324	1,144,565	82.7	238,893	186,319	143,772	67,320
	12 mos.	926	13,302,598	2,251,411	16,500,682	3,077,210	2,802,053	463,919	4,595,885	675,873	11,580,539	70.2	4,920,143	4,149,420	3,415,735	3,757,859
International-Great Northern	Dec.	1,159	1,371,486	255.632	1,824,974	314,672	380,376	35,643	679,046	61,033	1,458,208	79.90	366,766	337,818	221,984	155,624
	12 mos.	1,159	15,071,100	2,462,023	19,245,044	2,404,365	3,330,133	400,001	7,303,052	714,613	15,074,442	78.33	4,171,202	3,622,128	2,555,193	2,239,657
San Antonio, Uvalde & Gulf	Dec.	318	110,958	25,964	151,492	53,346	25,303	4,041	50,531	4,942	139,011	91.8	12,481	11,497	—11,452	16,376
	12 mos.	318	1,479.616	266.153	1,885,406	387,362	279,849	45,883	621,103	69,284	1,404,492	74.5	480,914	439,118	223,604	170,778
Texas & Pacific	Dec.	1,954	2,389,188	590,383	3,295,309	517,896	562,545	74,279	1,171,666	97,962	2,419,403	73.4	875,906	767,267	735,655	721,132
	12 mos.	1,953	26,556,342	6,107,849	35,449,650	5,414,907	6,511,860	845,628	12,473,426	1,178,699	26,488,388	74.7	8,961,262	7,093,476	6,240,676	5,974.105
Mobile & Ohio	Dec.	1,161	1,281,513	131,121	1,506,543	246,189	285,055	64,247	567,406	55,112	1,217,197	80.8	289,346	237,891	201,233	305,166
	12 mos.	1,161	16,919,529	1,427,346	19,342,805	2,858,604	3,503,595	644,213	6,645,210	572,346	14,219,710	73.5	5,123,095	3,891,794	3,404,766	3,642,919
Monongahela	Dec.	130	589,323	29,455	627,523	69.174	73,717	1,637	191,395	11,028	345.514	55.1	282,009	248,768	169,118	168,374
	12 mos.	130	6,382,267	269,296	6,732,173	786,674	788,717	12,410	1,851,466	120,304	3,543,640	52.6	3,188,533	2,845,435	1,930,084	1,756,117
Monongahela Connecting	Dec.	7	.....	.....	181,934	26,906	43,374	376	82,840	3,482	156,978	86.3	24,956	18,716	12,705	31,599
	12 mos.	7	.....	.....	2,279,700	249,322	425,300	4,517	1,002,916	38.971	1,721,026	75.5	558.674	463,427	431,939	261,250
Montour	Dec.	57	134,598	251	135,729	20,841	36,584	1,440	45,735	8,247	113,247	83.4	22,482	16,109	43,029	—1,464
	12 mos.	57	1,141,235	3,155	1,154,179	260,342	563,046	14,697	247,975	82,438	1,168,498	101.2	—14,319	—64,691	319,446	219,263
Nashville, Chattanooga & St. Louis	Dec.	1,259	1,341,525	364,170	1,897,729	248,148	415,426	102,553	705,956	73,726	1,560,812	82.2	336,917	260,109	284,526	473,966
	12 mos.	1,259	17,764,342	4,503,571	24,023,878	3,499,473	5,001,608	964,698	8,558,163	907.549	18,992,860	79.1	5,031,018	3,952,348	4,018,155	3,937,805
Nevada Northern	Dec.	165	70,770	7,362	85,003	13,110	8,466	1,067	15,700	4,970	43,494	51.1	41,509	34,952	34,129	12,636
	12 mos.	165	794,723	92,409	970.401	150,488	77,985	10,813	177,807	56,628	475,761	49.0	494,640	366,967	372,931	314,250
Newburgh & South Shore	Dec.	7	.....	.....	166,239	14,592	38,358	.....	91,436	6,319	150,705	90.7	15,534	—42,251	—29,565	—44,577
	12 mos.	7	.....	... ...	2,013,708	218,751	460,669	.....	832,987	54,123	1,566,530	77.8	447,178	236,127	284,174	306,666
New Orleans Great Northern	Dec.	274	241,943	27,196	277,494	40,032	53,835	11,781	81,913	11,783	199,640	71.9	77,854	70,968	54,584	78,004
	12 mos.	274	2,744,665	333,568	3,175,000	421,555	647,878	91,639	911,461	133,298	2,209,104	69.6	965,896	759,471	595,712	587,872
New York Central	Dec.	6,930	20,350,488	8,846,082	33,584,793	4,074,737	6,595,565	467,781	13,197,288	1,474,525	26,286,876	78.3	7,297,917	5,207,323	5,261,551	4,208,655
	12 mos.	6,930	248,370,052	99,890,012	399,497,436	53,906,678	84,189,327	4,952,464	135,849,217	14,546,869	298,926,535	74.8	100,570,901	73,530,513	72,131,053	67,920.549
Cincinnati Northern	Dec.	244	354,994	7,361	371,641	42,360	60,238	5,767	129,320	9,073	246,758	66.4	124,883	92,416	70,087	124.251
	12 mos.	244	4,616,786	83,055	4,808,434	544,834	832,749	69,529	1,531,622	141,542	3,114,683	64.8	1,693,751	1,363,541	1,056,117	1,042,269
Cleve., Cin., Chicago & St. Louis	Dec.	2,397	5,611,807	1,450,443	7,756,111	792,539	1,720,715	127,043	2,766,916	225.937	5,693,638	73.4	2,062,473	1,759,331	1,720.258	1,852,401
	12 mos.	2,397	70,367,478	16,268,500	94,539,987	11,077,554	19,992,310	1,624,916	33,336,164	3,148,626	70,058,665	74.1	24,481,322	19,066,716	18,527,246	18,560,709
Indiana Harbor Belt	Dec.	116	.....	.....	939,651	70,713	155,746	4,954	455.289	22,772	685,680	73.0	253,971	217,417	112,283	75,188
	12 mos.	116	.....	.....	11,363,945	1,482,000	1,605,123	57,423	4,705,551	327,950	8,147,889	72.0	3,216,056	2,660,222	1,876,826	1,871.489

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road		Average mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
Michigan Central	Dec.	1,855	$4,387,642	$1,809,931	$6,991,892	$857,606	$1,346,366	$123,995	$2,415,442	$233,321	$5,070,357	72.5	$1,921,535	$1,586,083	$1,621,270	$1,811,216
	12 mos.	1,855	64,489,762	21,537,939	95,524,343	11,528,183	18,064,540	1,368,268	29,900,805	3,082,427	64,957,364	68.0	30,566,979	24,562,647	23,565,130	23,763,981
Pittsburgh & Lake Erie	Dec.	231	2,623,405	263,461	2,999,517	490,456	937,156	22,350	981,532	100,808	2,533,947	84.5	465,570	354,807	793,781	1,046,682
	12 mos.	231	30,087,882	2,948,730	34,205,977	4,793,836	10,667,714	282,975	10,745,070	1,033,803	27,546,039	80.5	6,659,938	4,503,996	9,146,804	8,891,790
New York, Chicago & St. Louis	Dec.	1,691	4,142,148	162,997	4,460,691	416,674	902,683	122,999	1,722,428	178,389	3,261,935	73.1	1,198,756	944,099	788,426	778,581
	12 mos.	1,691	51,149,009	1,934,837	54,938,491	7,057,603	10,717,935	1,487,245	18,952,053	1,964,791	39,990,395	72.8	14,948,096	11,939,055	10,157,901	10,592,407
N. Y., New Haven & Hartford	Dec.	1,911	5,432,052	4,547,268	11,377,255	1,404,923	2,539,161	80,876	4,240,782	327,138	8,785,262	77.2	2,591,993	2,177,540	1,522,460	1,997,687
	12 mos.	1,917	69,234,031	50,461,785	135,065,836	17,790,161	28,708,196	967,733	46,347,231	3,598,025	99,540,261	73.7	35,525,575	30,131,518	23,204,053	23,324,795
Central New England	Dec.	264	713,565	2,413	740,064	95,626	142,380	7,189	303,114	16,859	565,168	76.4	174,896	131,217	76,008	357
	12 mos.	275	7,683,771	41,969	7,942,962	1,341,167	1,336,932	82,608	2,606,002	200,785	5,567,290	70.1	2,375,672	2,047,533	1,572,317	1,088,060
New York Connecting	Dec.	20	160,849	.....	201,510	23,394	15,371	.....	64,406	1,462	104,633	51.9	96,877	60,418	50,261	121,800
	12 mos.	20	2,601,609	.....	2,995,118	412,120	162,293	.....	652,978	17,839	1,245,230	41.6	1,749,888	1,291,429	1,240,071	1,254,234
New York, Ontario & Western	Dec.	569	683,781	96,729	957,653	126,159	223,500	17,979	502,683	35,182	906,499	94.7	51,154	27,137	—12,795	—196,822
	12 mos.	569	9,141,415	2,629,716	13,974,119	1,908,832	2,726,659	198,563	5,704,997	408,139	10,974,004	78.5	3,000,115	2,427,038	1,808,130	1,091,461
Norfolk & Western	Dec.	2,241	9,589,822	694,815	10,661,009	1,307,251	1,944,679	114,930	2,795,333	196,147	6,352,572	59.6	4,308,437	3,107,961	3,320,322	2,978,909
	12 mos.	2,241	108,703,463	7,663,494	120,409,039	16,413,152	21,215,215	1,309,177	30,283,220	2,269,536	71,226,914	59.2	49,182,125	38,094,793	40,922,151	31,510,952
Norfolk Southern	Dec.	931	688,735	70,875	809,327	118,958	139,057	28,274	287,386	35,322	598,447	73.9	210,880	145,516	110,422	178,861
	12 mos.	931	8,666,126	857,544	10,066,486	1,327,276	1,672,702	289,747	3,633,455	348,431	7,137,699	70.9	2,928,787	2,252,191	1,786,087	1,508,456
Northern Pacific	Dec.	6,682	5,310,999	1,122,490	7,190,089	611,553	1,325,564	175,239	2,648,664	270,577	5,119,564	71.2	2,070,525	1,547,653	1,947,034	2,259,503
	12 mos.	6,682	76,226,065	12,639,990	97,351,042	12,297,403	17,414,638	2,411,688	32,291,965	2,910,819	68,260,944	70.1	29,090,098	19,918,279	24,213,700	22,227,319
Northwestern Pacific	Dec.	477	247,334	152,295	445,164	107,956	84,319	5,269	212,727	19,224	429,089	96.4	16,075	—24,919	—34,452	9,207
	12 mos.	483	4,370,487	2,014,325	7,009,347	1,197,770	987,280	77,737	2,656,885	219,122	5,135,979	73.3	1,873,368	1,381,717	1,229,240	1,158,222
Pennsylvania R. R.	Dec.	10,517	40,526,726	12,503,560	58,707,259	9,075,894	13,770,783	793,753	24,358,989	1,590,530	50,224,438	85.6	8,482,821	6,090,726	4,687,321	7,878,468
	12 mos.	10,517	497,424,226	147,976,357	709,817,450	92,362,198	161,880,739	8,884,633	259,815,202	18,642,826	550,360,578	77.5	159,456,872	122,085,068	106,432,758	100,108,007
Baltimore, Chesapeake & Atlantic	Dec.	130	63,719	30,281	99,951	13,355	28,533	1,365	83,533	4,354	131,140	131.2	—31,189	—31,189	—31,927	—35,179
	12 mos.	130	930,673	408,324	1,427,348	158,560	359,877	23,392	945,976	40,787	1,528,592	107.1	—101,244	—152,168	—154,017	—84,814
Long Island	Dec.	401	841,025	1,945,766	3,025,394	401,686	546,121	30,204	1,404,281	88,101	2,481,323	82.0	544,071	449,682	300,901	130,088
	12 mos.	401	11,661,080	25,273,802	39,648,538	5,045,573	6,360,022	379,331	16,159,406	963,225	29,007,593	73.2	10,840,945	8,481,271	5,832,229	6,576,871
West Jersey & Seashore	Dec.	378	403,915	351,828	798,610	155,501	154,279	15,486	472,926	23,805	820,124	102.7	—21,514	—21,061	34,300	—61,968
	12 mos.	378	5,221,313	7,140,764	12,928,521	2,254,377	1,987,449	239,198	5,819,981	335,913	10,644,105	82.3	2,284,816	1,337,740	1,162,092	1,178,305
Peoria & Pekin Union	Dec.	19	27,686	3,587	165,903	21,138	31,553	1,206	72,286	7,528	133,711	80.6	32,192	77	18,557	44,837
	12 mos.	19	284,883	31,157	1,773,839	234,014	233,319	11,253	749,663	94,995	1,323,244	74.6	450,595	214,480	507,681	504,366
Pere Marquette	Dec.	2,244	2,755,385	286,279	3,295,933	284,063	841,156	56,618	1,296,956	95,991	2,576,342	78.2	719,591	561,989	460,017	810,681
	12 mos.	2,246	38,972,980	3,830,410	45,799,700	4,866,508	9,529,997	664,782	15,457,783	1,322,863	31,886,011	69.6	13,913,689	11,490,298	9,793,224	8,770,220
Pittsburg & Shawmut	Dec.	102	140,322	6,594	149,394	11,151	40,571	1,317	47,315	7,246	107,600	72.0	41,794	29,215	45,503	48,350
	12 mos.	102	1,600,089	44,379	1,672,914	217,340	495,788	16,812	466,239	83,605	1,279,784	76.5	393,130	378,028	504,304	339,241
Pittsburgh & West Virginia	Dec.	92	423,932	7,120	464,847	25,343	82,965	12,036	102,184	44,638	273,307	58.8	191,540	134,735	251,415	80,534
	12 mos.	92	4,672,559	70,300	5,156,486	419,355	997,213	101,041	974,812	269,732	2,902,851	56.3	2,253,635	1,547,564	2,713,043	2,045,760
Pittsburgh, Shawmut & Northern	Dec.	198	153,408	4,198	162,202	29,719	65,569	1,638	68,146	6,385	171,457	105.7	—9,255	—10,231	—16,429	—63,625
	12 mos.	205	1,860,543	35,728	1,939,831	373,278	432,393	20,016	719,753	68,491	1,613,931	83.2	325,900	291,776	186,891	146,904
Quincy, Omaha & Kansas City	Dec.	249	49,703	15,472	74,722	36,246	11,695	715	32,123	2,354	82,629	110.6	—7,907	—11,918	—15,058	—18,389
	12 mos.	250	661,078	180,296	940,438	364,507	155,446	9,656	402,166	30,874	960,533	102.1	—20,095	—76,651	—113,383	—176,274
Reading	Dec.	1,138	7,493,466	860,381	8,768,944	1,082,350	1,952,018	78,235	3,480,184	223,697	6,818,139	77.8	1,950,806	1,251,319	1,376,689	1,390,384
	12 mos.	1,138	84,809,771	9,794,351	99,290,136	13,744,846	21,642,240	939,247	34,958,858	2,235,982	73,508,751	74.0	25,781,385	20,244,379	22,032,863	20,354,629
Atlantic City	Dec.	161	150,835	114,544	284,792	60,839	31,383	4,330	163,049	12,637	272,386	95.6	12,406	—19,932	—45,310	—80,856
	12 mos.	161	1,667,966	2,864,017	4,796,784	988,831	389,680	83,566	2,369,182	77,455	3,911,367	81.5	885,417	494,606	114,607	222,465
Perkiomen	Dec.	41	104,827	4,523	112,724	6,209	6,288	155	48,294	1,089	62,081	55.1	50,643	31,546	25,787	22,492
	12 mos.	41	1,335,510	63,114	1,440,281	135,055	73,827	1,343	557,481	12,771	781,068	54.2	659,213	562,980	498,012	486,938
Port Reading	Dec.	19	188,022	.....	241,680	21,497	7,883	229	87,709	4,840	122,158	50.6	119,522	120,988	38,934	—4,832
	12 mos.	19	1,907,104	.....	2,476,392	358,546	201,215	2,748	938,135	33,520	1,534,182	62.0	942,210	762,862	10,076	314,719
Richmond, Fred'ksburg & Potomac	Dec.	117	387,146	386,200	1,077,377	153,752	148,496	8,780	371,316	37,154	748,413	69.5	328,964	257,218	196,898	395,969
	12 mos.	117	5,787,062	4,595,044	12,801,738	1,331,455	2,124,644	105,856	4,276,084	439,086	8,656,357	67.6	4,145,381	3,286,241	2,662,956	3,277,685
Rutland	Dec.	413	311,047	106,881	547,294	67,817	114,122	11,218	242,594	16,999	454,522	83.0	92,772	68,503	77,768	60,321
	12 mos.	413	3,935,875	1,248,983	6,759,524	1,260,230	1,330,456	124,183	2,629,660	163,465	5,529,382	81.8	1,230,142	873,084	970,496	786,663
St. Louis-San Francisco	Dec.	4,951	5,030,870	1,392,900	6,963,959	800,457	1,208,397	108,038	2,590,220	233,373	4,886,971	70.2	2,076,988	1,824,606	1,882,520	1,921,262
	12 mos.	4,958	67,774,220	15,461,137	89,538,956	11,727,005	17,273,812	1,329,969	29,283,318	2,937,676	61,957,895	69.2	27,581,061	22,900,835	23,040,058	21,867,133
Ft. Worth & Rio Grande	Dec.	233	90,762	19,665	122,836	32,936	20,402	3,718	51,123	5,911	113,831	92.7	9,005	5,979	—2,308	—5,765
	12 mos.	233	973,632	194,254	1,298,032	363,895	258,269	39,696	650,406	63,590	1,374,217	105.9	—76,185	—125,105	—228,494	—113,635
St. Louis, San Francisco & Texas	Dec.	137	162,533	13,356	182,229	32,141	27,321	5,218	64,929	7,396	136,772	75.1	45,457	40,824	13,170	46,309
	12 mos.	137	1,806,236	150,373	2,030,352	324,357	327,754	61,729	716,143	90,558	1,519,813	74.9	510,540	476,906	174,627	296,988
St. Louis Southwestern	Dec.	940	1,311,079	130,352	1,524,067	188,006	186,806	66,725	381,494	77,499	909,127	59.7	614,940	547,217	476,312	480,007
	12 mos.	940	15,842,020	1,402,569	18,201,955	2,684,083	3,134,943	721,120	4,540,296	749,769	11,998,376	65.9	6,203,579	5,303,333	4,375,007	4,176,561
St. Louis Southwestern of Texas	Dec.	807	510,600	77,259	643,877	126,581	91,790	27,879	251,080	33,669	528,807	82.1	115,070	94,847	161,893	162,074
	12 mos.	807	6,151,329	723,838	7,490,870	2,180,764	1,525,687	308,192	2,951,308	395,022	7,355,079	98.2	135,791	—225,342	467,245	592,530

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road		Average mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of—Way and structures.	Maintenance of—Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after rents, 1925.
Seaboard Air Line	Dec.	4,032	$4,308,977	$1,110,561	$5,959,093	$801,710	$853,056	$157,696	$2,253,390	$198,806	$4,181,256	70.2	$777,837	$1,415,859	$1,281,158	$1,166,666
	12 mos.	3,943	48,858,190	12,213,236	67,024,853	8,988,122	10,122,639	2,371,539	24,850,183	2,290,096	49,256,470	73.5	17,768,383	14,280,843	12,014,124	10,822,731
Southern Ry.	Dec.	6,797	9,137,593	2,684,256	12,917,731	1,266,786	2,230,160	264,077	4,785,960	382,316	9,033,477	69.9	3,884,254	2,783,906	2,661,706	3,804,157
	12 mos.	6,795	112,772,537	30,384,544	155,467,976	21,049,999	26,773,735	3,094,112	51,859,716	4,050,053	107,866,589	69.4	47,601,387	37,206,496	35,528,783	35,086,021
Alabama Great Southern	Dec.	318	611,426	185,841	860,971	7,463	159,196	22,490	281,064	21,460	499,980	58.1	360,991	286,817	308,622	446,504
	12 mos.	318	7,930,420	1,995,014	10,599,163	1,446,983	2,074,152	256,766	3,190,294	280,625	7,336,614	69.2	3,262,549	2,486,998	2,728,463	2,999,281
Cin., New Orleans & Tex. Pacific	Dec.	338	1,319,301	378,597	1,821,770	333,762	369,135	40,914	568,779	50,794	1,381,836	75.9	439,934	374,595	361,430	725,263
	12 mos.	338	17,668,368	4,263,502	23,310,331	3,703,361	4,435,575	520,668	6,566,377	632,005	16,082,198	69.0	7,228,133	5,802,454	5,707,690	7,328,954
Georgia Southern & Florida	Dec.	401	313,704	130,365	497,011	—927	79,082	15,399	188,676	12,822	298,611	60.1	198,400	179,427	169,180	174,515
	12 mos.	401	4,481,137	1,796,028	6,764,554	1,002,572	1,087,201	197,825	2,584,220	148,511	5,071,913	75.0	1,692,641	1,354,660	953,254	1,398,391
New Orleans & Northeastern	Dec.	207	434,177	89,080	561,827	40,741	80,912	16,650	149,160	15,752	308,216	54.9	253,617	238,453	206,849	172,374
	12 mos.	207	4,970,561	980,907	6,385,549	795,918	979,504	154,233	1,805,395	176,725	3,964,552	62.1	2,421,027	1,773,530	1,399,250	1,465,491
Northern Alabama	Dec.	110	117,517	9,919	130,509	12,447	4,496	2,699	39,676	3,044	62,363	47.8	68,146	58,321	31,204	37,458
	12 mos.	110	1,346,047	104,686	1,484,605	277,448	57,661	25,771	465,154	34,316	860,071	57.9	624,534	551,204	240,362	291,273
Southern Pacific	Dec.	8,928	10,883,172	3,591,096	16,228,412	1,933,623	2,705,557	379,765	5,638,806	600,528	11,590,680	71.4	4,637,732	3,470,465	3,371,434	3,836,779
	12 mos.	8,799	152,637,760	41,840,997	213,970,447	29,339,305	33,898,989	4,365,515	68,875,988	7,192,548	146,417,881	68.4	67,552,566	49,935,341	46,617,047	40,956,896
Atlantic Steamship Lines	Dec.	...	811,162	29,198	989,118	30,303	191,405	24,042	682,302	36,805	954,857	96.5	34,261	17,755	19,043	57,855
	12 mos.	...	10,158,355	535,582	12,495,194	207,527	2,258,924	206,707	7,805,475	407,663	10,886,296	87.1	1,608,898	1,501,325	1,511,794	—10,878
Galveston, Harrisb'g & S. Antonio	Dec.	2,104	1,848,055	476,429	2,523,274	550,238	514,053	66,087	909,369	106,964	2,132,647	84.5	390,627	381,011	305,024	654,469
	12 mos.	2,104	22,978,008	5,291,469	30,426,108	5,335,220	6,010,444	689,421	10,836,820	1,299,672	24,418,425	80.3	6,007,683	4,730,442	3,600,656	3,983,557
Houston & Texas Central	Dec.	900	1,063,390	278,767	1,440,262	256,580	211,778	32,198	405,710	49,069	956,404	66.4	483,858	477,182	443,661	290,229
	12 mos.	898	10,607,817	2,815,524	14,453,822	2,482,696	2,833,723	356,480	4,624,187	594,683	10,905,101	75.4	3,548,721	2,770,731	2,461,931	2,120,304
Houston, East & West Texas	Dec.	191	243,489	47,146	307,010	47,823	47,433	4,299	73,988	10,055	183,532	59.8	123,478	123,158	99,934	55,900
	12 mos.	191	2,720,312	449,139	3,335,849	545,917	603,920	49,028	957,413	119,490	2,270,390	68.1	1,065,459	889,307	673,259	570,320
Louisiana Western	Dec.	207	236,397	83,761	345,029	48,750	40,179	16,089	104,272	19,708	232,309	67.3	112,720	68,446	62,651	82,801
	12 mos.	207	2,664,468	936,347	3,873,876	516,686	724,530	188,645	1,209,979	242,084	2,928,428	75.6	945,448	619,339	540,488	651,891
Morgan's L. & T. R. R. & S. S. Co.	Dec.	400	554,194	131,806	751,768	153,851	126,875	24,495	369,765	35,943	713,641	94.9	38,127	—38,299	—68,740	96,251
	12 mos.	400	5,949,960	1,515,872	8,165,559	1,812,706	1,863,479	286,761	3,577,916	437,496	8,029,871	98.3	135,688	—530,852	—775,178	—71,966
Texas & New Orleans	Dec.	569	715,877	165,920	950,138	169,546	201,821	18,416	294,723	36,279	723,240	76.1	226,898	213,399	181,776	333,345
	12 mos.	561	7,849,236	1,783,351	10,317,157	1,836,544	2,243,019	196,247	3,793,814	442,681	8,546,172	82.8	1,770,985	1,381,481	950,360	1,765,903
Spokane, Portland & Seattle	Dec.	554	488,766	109,433	656,155	80,441	82,260	10,677	174,596	24,622	377,103	57.5	279,052	188,097	193,374	120,458
	12 mos.	554	6,548,121	1,363,510	8,649,180	1,242,637	1,134,758	132,228	2,424,075	266,291	5,269,067	60.9	3,380,113	2,400,548	2,281,607	1,773,048
Tennessee Central	Dec.	296	178,120	27,895	221,016	50,553	31,259	7,866	97,185	11,872	198,702	89.9	22,314	29,876	17,060	43,795
	12 mos.	296	2,701,517	361,034	3,238,513	670,212	505,249	94,953	1,165,850	150,926	2,584,296	79.8	654,217	583,972	328,903	430,168
Terminal Railroad Ass'n of St. L.	Dec.	55	.....	.....	1,109,339	225,743	121,307	2,047	474,657	21,069	845,920	76.3	263,419	177,892	263,545	322,494
	12 mos.	55	.....	.....	13,537,818	2,204,231	1,129,856	27,491	5,142,027	264,211	8,807,037	65.1	4,730,781	3,382,778	4,439,633	3,914,357
Toledo, Peoria & Western	Dec.	248	122,916	11,689	145,973	23,887	33,555	3,471	61,097	8,204	130,214	89.2	15,759	15,637	14,306	—7,452
	12 mos.	248	1,207,354	195,345	1,524,845	338,844	317,023	37,947	745,434	84,860	1,523,808	99.9	1,037	—74,091	—127,196	—236,939
Trinity & Brazos Valley	Dec.	367	296,993	14,039	320,183	72,058	32,307	5,591	132,925	12,907	237,679	74.2	82,504	79,566	46,918	25,811
	12 mos.	367	2,608,454	124,114	2,816,502	744,742	492,216	58,294	1,213,715	153,835	2,582,521	91.7	233,981	146,173	—178,535	—364,263
Ulster & Delaware	Dec.	128	30,877	5,631	63,877	5,961	9,605	1,594	43,046	—59	60,147	94.2	3,730	—2,074	—4,056	—4,507
	12 mos.	128	556,365	273,949	1,242,253	260,387	188,626	19,972	620,482	64,172	1,093,639	88.0	148,614	79,559	31,269	47,669
Union Railroad of Penna.	Dec.	45	.....	.....	736,534	69,181	274,905	163	415,845	30,845	790,939	107.4	—54,405	—56,167	—13,978	85,174
	12 mos.	45	.....	.....	11,899,781	1,200,874	2,890,615	2,154	5,151,723	149,750	9,395,112	79.0	2,504,669	2,036,349	2,767,612	2,743,116
Union Pacific	Dec.	3,714	6,489,476	1,274,968	8,711,115	688,207	1,852,815	186,295	2,416,909	289,798	5,587,013	64.1	3,124,102	2,200,280	2,033,768	2,186,656
	12 mos.	3,696	87,693,480	16,207,850	113,972,308	13,126,142	22,929,526	2,154,953	30,068,112	3,560,180	74,044,571	65.0	39,927,737	31,139,985	27,852,065	28,995,490
Oregon Short Line	Dec.	2,537	2,061,802	373,399	2,701,953	357,858	526,398	47,501	875,864	108,935	1,970,547	72.9	731,406	532,573	462,488	798,813
	12 mos.	2,525	29,156,468	4,465,680	36,372,207	5,750,977	6,087,923	618,869	10,646,243	1,388,322	25,182,357	69.2	11,189,850	8,067,752	7,024,611	6,590,958
Oregon, Wash. R. R. & Nav. Co.	Dec.	2,221	1,629,980	359,359	2,213,904	263,575	320,204	73,581	833,240	121,861	1,635,882	73.9	578,022	361,444	326,395	293,536
	12 mos.	2,232	23,917,317	4,001,455	30,510,001	4,917,192	4,382,895	874,661	10,455,223	1,401,717	22,330,487	73.2	8,179,514	5,951,472	4,662,729	2,129,737
Los Angeles & Salt Lake	Dec.	1,208	1,415,654	411,959	2,048,287	418,750	422,072	73,132	632,978	66,345	1,690,208	82.5	358,079	221,845	118,179	131,313
	12 mos.	1,208	17,125,077	5,002,116	24,561,748	4,366,629	4,609,845	880,730	7,468,614	883,272	19,212,125	78.2	5,349,623	3,747,631	2,560,739	2,322,459
St. Joseph & Grand Island	Dec.	258	218,826	17,806	253,238	33,674	45,648	3,090	96,050	14,914	193,301	76.3	59,937	43,188	30,886	67,263
	12 mos.	258	3,172,520	194,493	3,586,348	704,169	546,426	36,927	1,206,541	177,851	2,680,214	74.7	906,134	683,091	488,375	619,873
Utah	Dec.	111	162,240	.....	162,360	14,196	29,343	438	35,247	6,367	85,591	52.7	76,769	66,121	57,959	55,478
	12 mos.	111	1,636,999	1,112	1,642,631	242,902	421,027	4,873	346,750	72,657	1,088,140	66.2	554,491	436,858	399,769	460,843
Virginian	Dec.	545	1,677,060	71,411	1,922,433	697,923	412,592	15,032	534,271	35,905	1,692,792	88.1	229,641	79,602	151,366	617,062
	12 mos.	545	21,282,110	686,837	23,878,539	3,052,952	4,456,406	162,879	5,196,933	410,711	13,239,669	55.4	10,638,870	8,948,978	9,856,725	6,458,207
Wabash	Dec.	2,524	4,677,915	801,704	6,025,937	591,910	1,054,943	156,973	2,300,794	170,975	4,164,191	69.1	1,861,746	1,574,559	1,320,968	1,519,233
	12 mos.	2,524	57,205,296	9,234,815	71,693,341	9,859,556	12,457,129	1,890,493	26,276,878	2,057,377	52,465,680	73.2	19,227,661	15,790,598	12,562,083	12,252,515
Western Maryland	Dec.	804	2,522,698	48,165	2,665,716	235,276	663,045	35,272	823,155	47,559	1,817,177	68.2	848,539	716,722	592,621	331,413
	12 mos.	804	23,871,862	569,632	25,259,575	2,952,965	6,098,196	436,079	7,276,518	529,455	17,404,533	68.9	7,854,942	6,758,125	6,075,223	4,726,158
Western Pacific	Dec.	1,042	863,311	89,926	1,035,758	140,870	198,610	37,759	407,389	43,094	835,753	80.7	200,005	83,189	177,351	382,907
	12 mos.	1,042	12,961,371	1,851,027	16,057,065	2,272,357	2,519,762	461,616	5,093,697	449,884	11,275,140	70.2	4,781,925	3,474,609	4,337,205	4,298,499
Wheeling & Lake Erie	Dec.	511	1,310,084	39,911	1,442,373	233,019	416,400	37,568	500,832	65,519	1,240,427	86.0	201,946	132,686	180,874	296,280
	12 mos.	511	19,155,371	456,819	20,925,899	3,114,517	4,816,739	401,620	6,072,913	575,179	14,984,089	71.6	5,941,810	4,273,160	4,398,877	4,364,972

News of the Week

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railways, to meet the insistent demand of the public for use of the new station and abandonment of the present station have decided to lay temporary tracks to the new station on the lower level and utilize it this summer.

Shop Accidents Reduced on A. C. L.

Competition in safety records, one of the methods for promoting diligence and enthusiasm among employees in the preservation of their own lives and limbs and those of their fellow workmen, has been a feature of the service in two shops of the Atlantic Coast Line during the past year; the plant at Emerson, employing 2,006 men and that at Waycross employing 2,176. Waycross challenged Emerson, and the results of the intensive work done by the shop superintendents and their foremen are shown in the following figures:

Emerson shop plant:		
Average employees on duty 1926.	2,006	
Average for previous six years...	1,551	
Increase in employees.....		455=29 p.c.
Average number injured per year during previous six years.....	106	
Number injured during 1926....	52	
Decrease in injuries.....		54=51 p.c.
Waycross shop plant:		
Average employees on duty, 1926.	2,176	
Average employees, previous six years	1,693	
Increase in employees.....		483=29 p.c.
Average number injured per year, during previous six years.....	169	
Number injureed during 1926..	60	
Decrease in injuries.....		109=64 p.c.

While Waycross shop plant showed a larger reduction in accidents over her previous record, the rate per 100 employees on duty gave to Emerson shop the lead by a small margin, and that shop was declared the winner.

Propriety of Railway Officer Discussing Mooted Rate Question

Whether or not the president of a railway has the right to express his views on a freight rate question at the time under review by the Dominion Railway Board was a question which occupied considerable time at one of the sittings in Ottawa last week on the general equalization case. G. G. McGeer, counsel for the province of British Columbia, had taken strong exception to remarks made at a dinner in Montreal by Sir Henry Thornton, president of the Canadian National, dealing with the inevitable results of any lowering of freight rates, and Mr. McGeer interpreted Sir Henry's remarks as a challenge to the authority of the Railway Board and declared that Sir Henry should be summoned before the board to defend his alleged conduct. Chief Commissioner H. A. McKeown and Commissioner A. C. Boyce agreed that it was not the board's business to deal with what railway men said at dinners or other functions. Mr. McGeer insisted that Sir Henry had been guilty of propaganda and sub judice utterances and moved that Sir Henry be summoned. The board, however, refused the motion and then Alistair Fraser, counsel for the Canadian National, moved that Mr. McGeer's remarks be expunged from the board's records, declaring that Mr. McGeer had put into the mouth of Sir Henry words he had never spoken. The matter was settled by placing on the record beside Mr. McGeer's strictures a newspaper account of Sir Henry's speech in Montreal.

The many difficulties of railway operation in the Rocky mountains were told to the board last week by W. M. Neal, assistant to the vice-president of the Canadian Pacific.

Records show that pusher mileage is, roughly speaking, three times greater between Calgary and Vancouver than between Calgary and Fort William, this being true of movements in both directions in each case. The pusher mileage in the former area he gave as 223.2, and in the latter as 76 exactly.

Mr. Neal went on to testify that expense of operation in the mountains was increased further by the higher wage rates paid to the crews on the mountain runs. The wage cost for train and engine crews, he stated, to haul a train 100 miles, based on the rate of pay alone, was $31.60 in the mountains as compared with $27 for the same services on the prairies. A result of these conditions was that between Calgary and the coast it cost 78.4 cents in 1925 to haul 1,000 gross tons one mile, as against only 32.06 cents east of Calgary. In 1925 it took from 88 to 126 pounds of coal on the prairies to haul 1,000 gross tons one mile, while in British Columbia the amount of coal necessary for an equivalent service was 164 pounds.

Mr. Neal dealt with weather conditions, snow slides, washouts, etc., and the cost of maintaining bridges, trestles, culverts, etc., was $37.43 per mile of road on the prairie divisions in 1925, and $118.37 in British Columbia.

"Oil Power Week" Among Engineers

The week of April 18 to 23, 1927, has been designated as "Oil Power Week" by the Oil Power National Conference representing the various national engineering societies interested in the development of power or the petroleum industry. The National Committee in charge announces a cash prize of $100 accompanied by a suitable certificate, known as the Rudolph Diesel award, which will be given for the best contribution toward the advancement of oil engines, either in the form of a paper presented at one of the meetings which will be held throughout the country during that week, or in the form of a written discussion of the paper by any person attending any of the meetings. The manuscripts must be in the hands of the National Committee not later than June 1, and the award will be announced by August 1. Communications should be addressed to Edgar J. Kates, chairman, National Committee, 29 West Thirty-ninth street, New York.

Traffic

The Senate has passed the deficiency appropriation bill carrying an appropriation of $2,000,000 for the purchase of stock of the Inland Waterways Corporation to provide funds for the development of a barge line service on the upper Mississippi river and for improvement of the service on the Warrior river.

Among the candidacies for appointment to the Interstate Commerce Commission which have been given publicity are those of Ezra Brainerd, a lawyer of Muskogee, Okla., who is being urged by the Senators from that state, and H. H. Haines, formerly manager of the Galveston, Tex., Chamber of Commerce. Senator Reed of Pennsylvania is understood to be working still for the appointment of Representative Temple.

The Interstate Commerce Commission has made public a proposed report by Attorney-Examiner Beach on a complaint by the Port of New York Authority asking in substance for all-rail through routes and joint rates by way of the Hell Gate bridge between Long Island points and points on lines in the territory west of New York and Pennsylvania. He recommends a finding by the commission that to require such routes and rates on outbound traffic from Long Island would short-haul the Long Island Railroad and the Pennsylvania, carriers operated in conjunction and under common management and control, contrary to section 15 (4) of the commerce act, but that through routes and rates on inbound traffic to Long Island points are in the public interest. He also recommends that the routing be left in the carriers' control and says that the exercise of the commission's power under paragraph 4 of section 3 has not been shown to be in the public interest.

Lake Cargo Coal Rates Argued Before I. C. C.

A two-day oral argument in the lake cargo coal rate case was begun before the full membership of the Interstate Commerce Commission at Washington on February 9, the case having been reopened by the commission following a decision by the commission in 1925 dismissing the request of the Pennsylvania and Ohio coal operators for lower rates to the lake ports. Complainants are asking a reduction in the rates from Pennsylvania and Ohio to the lakes on the ground that they are unreasonable in themselves and discriminatory as compared with the rates from the southern coal district, which, although higher in amount, are less per ton-mile. They assert that the rates are such as to give a preference to the more distant coal districts and that the adjustment, as prescribed by the commission in previous decisions, has had the effect of transferring a large share of the lake cargo coal business to the southern fields. Representatives of the southern fields, on the other hand, say they are entitled to lower rates per mile because of easier transportation

conditions and that they have been enabled to increase their business by having better coal and lower wages and other costs. One point involved is whether the commission can find a discrimination when some of the roads serving the southern district do not serve the northern district, but the complainants take the position that the discrimination was created by the commission in preserving approximately the same differentials in cents per ton while advancing the rates themselves during and following the war, and that it can undo its own action.

Arguments were presented on February 9 by A. G. Gutheim and Walker D. Hines, representing the Pennsylvania coal operators, E. S. Ballard, representing Ohio No. 8 district, and George N. Brown, representing southern Ohio coal operators. Arguments in favor of a reduction of the rates from the northern district also were presented by Harold Evans, representing the Pennsylvania Public Service Commission and A. M. Calland of the Ohio commission. Mr. Brown and Mr. Calland said that the Ohio lake cargo coal business had been entirely lost, while coal from the more distant fields has taken the place of Ohio coal. Mr. Evans said that Pennsylvania had an interest in the matter aside from its interest in coal because if rates may be made to enable a more distant coal mine to compete with mines nearer to the markets the same argument might be applied to textiles. Commissioner Eastman remarked that what he feared had already happened because the southern textile mills have already been put on a basis of competitive rates and Commissioner Meyer smilingly asked if Pennsylvania had not discovered it.

Campaign for Heavier Car-Loading Inaugurated

A campaign to bring about the loading of freight cars more nearly in accordance with their capacity is to be conducted in 1927 by the various shippers' regional advisory boards which have been organized in various parts of the country in cooperation with the Car Service Division of the American Railway Association. The different boards will conduct their campaigns in their own ways and various plans may be used in different parts of the country.

The Atlantic States Shippers' Advisory Board has announced a plan by which the month of May is selected as a test period in which a check will be made of the loading of such commodities as cement, brick, fertilizer, sugar and salt, and the results will be analyzed with a view to extending the campaign to other commodities. Plans have been prepared under the direction of W. J. L. Banham, of the Otis Elevator Company, chairman of the Atlantic States board, and J. W. Roberts, general superintendent of transportation of the Pennsylvania. Each railroad operating in the territory of the board will submit carloading reports to E. J. Cleave, district manager of the Car Service Division, to be placed before the executive committee of the board and the railroad contact committee and later the full membership of the board.

Foreign Railways

German Dining and Sleeping Cars for Russia

A proposed agreement has been reported between the Transport Ministry of the Soviet government and the German Company Mitropa. "Mitropa," the German sleeping car company, states a report to the Department of Commerce from Acting Commercial Attache Douglas Miller, Berlin, Germany, under which the Mitropa has offered to place 200 German dining and sleeping cars on the Russian railways. It is believed that the Soviet government may accept this proposition.

The construction of six Mitropa hotels in traffic centers of Russia is also planned. A contract running for three years is specified. It is expected that this will be signed by both parties in the near future.

Peruvian Trans-Andean Railway Concession Granted to American

The Huallaga Railway concession has been given to an American, according to a report to the Department of Commerce From Commercial Attache L. W. James, Lima. The road is to start from some port of the Pacific Coast near Paita, Peru, and end at Yurimaguas on the Huallaga River, a tributary of the Amazon, where there is a minimum of eight feet of water, even during the dry season.

The concession carries with it almost 100,000 square miles of land with full title, and mining and petroleum rights, and the railway will not reach over 8,000 feet altitude as against 15,000 feet by other routes. The concessionnaire some time ago estimated that it would take $30,000,000 to build the road and he looks for immediate profits from the sale of lands, oil and mineral rights.

Japanese Plan to Electrify 300 Miles

Plans are being made in Japan for the electrification of the railway line between Numazu and Akashi, according to a report from Vice-Consul Harland L. Walters, Tokyo, made public by the Department of Commerce. This 300-mile stretch is perhaps the most important project of railway electrification yet attempted, since the traffic on this line is among the heaviest in the Empire. That portion of the Tokaido system now electrified, together with the proposed extension, will serve sixteen prominent towns and cities. Three of the most important seaports are located within its limits, as well as the largest manufacturing centers and some of the most productive agricultural land in the Empire.

Notwithstanding the fact that the electrified portions of the railway system have proved successful and in many respects superior to steam operation, there is a considerable amount of uncertainty as to extension of electrification. This is due principally to the financial aspect of the government at present and the future policy of the Department in apportioning funds for this purpose. The Department of Imperial Government Railways purchased, as a part of the electrification program, 56 locomotives. Of this number, 36 are of British make, 16 are American made and 4 are of Swiss manufacture.

British Railways Sustain Large Drop in Revenues

The general industrial depression and trade disputes occurring in Great Britain during 1926 exercised very adverse effects on the British railways, their loss in net income being estimated as between £14,000,000 and £18,000,000 less than in 1925, which in turn, was one of the most unsatisfactory years in British railroad history, state advices to the Department of Commerce from Assistant Trade Commissioner Harold A. Burch, London.

Railway rates have been reduced since the government released control on August 15, 1921, but since that date only small reductions in operating expenses have been possible. Freight traffic anticipated from rate reductions has not been forthcoming, owing to the unfavorable position of the heavy industries.

Development in 1926 was overshadowed by the long coal strike and its accompanying brief general strike. These put a stop to the advancement and progress which the railways had made up to the end of April, and as the coal strike continued the companies were forced to restrict their staffs in the interests of economy. The guaranteed full-time week for employees was suspended so as to allow a greater number of men to work part time and, the effects of this long stoppage have been so pronounced that the railways are not yet willing to re-establish the guaranteed week.

Lack of coal supplies tended to deepen the depression in other industries, while the high prices of imported coal added to the operating expenses of all industries. These conditions restricted somewhat the amount of goods produced, so that both freight and passenger traffic have been less than last year.

The Southern Railway, by reason of its large passenger traffic, has been the least affected by the recent industrial troubles, but even this railroad's revenue is well under that of last year. The decrease in operating revenues of the four railways for 49 weeks of 1926 as compared with the like period of 1925, is shown in the following figures: Great Western Railway, £4,648,000; London Midland and Scottish Railway, £11,427,000; London and North Eastern Railway, £9,742,000; Southern Railway, £1,817,000; total decrease, £27,634,000. Of this total, £8,593,000 is accounted for by passenger traffic, and £19,041,000 by freight traffic.

Equipment and Supplies

Freight Cars

THE CHICAGO & NORTH WESTERN is inquiring for 25 caboose cars.

THE GREAT NORTHERN is inquiring for 500 40-ft., 50-ton box cars.

PALACE POULTRY CAR COMPANY.—See North American Car Corporation.

THE KANSAS CITY, MEXICO & ORIENT is inquiring for from 40 to 50 ballast cars.

THE CHESAPEAKE & OHIO is inquiring for 500 hopper car bodies of 70 tons' capacity.

THE PITTSBURGH PROVISION & PACKING COMPANY has ordered four refrigerator cars from the American Car & Foundry Company.

THE NORTH AMERICAN CAR CORPORATION is inquiring for 200 live poultry cars, which will be operated by the Palace Poultry Car Company, a subsidiary.

THE NORFOLK & WESTERN has ordered 32, 30-cu. yd. air dump cars from the Western Wheeled Scraper Company and 18 from the Clark Car Company. Inquiry for this equipment was reported in the *Railway Age* of February 5.

THE CANADIAN NATIONAL has ordered 1,000 automobile box cars from the Pressed Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of January 15. These cars are for service on the Grand Trunk Western lines.

THE BANGOR & AROOSTOOK is inquiring for 100 steel underframes and superstructures for box cars, to be built in its own shops. In the *Railway Age* of February 5, it was reported that the company contemplated building 100 cars in its own shops.

THE CHICAGO & NORTH WESTERN is inquiring for 1,335 sets of underframes and superstructures for box cars, to be built in its own shops. This company has given an order for 500 underframes and superstructures for box cars to the Illinois Car and Manufacturing Company. Inquiry for this equipment was reported in the *Railway Age* of January 29.

Passenger Cars

THE ATCHISON, TOPEKA & SANTA FE has ordered 10 postal cars from the Pullman Car & Manufacturing Corporation.

THE ATCHISON, TOPEKA & SANTA FE has ordered 20 chair cars from the Pullman Car & Manufacturing Corporation. Inquiry for this equipment was reported in the *Railway Age* of December 11.

THE CANADIAN NATIONAL has ordered two combination mail and express cars from the Pressed Steel Car Company. These cars are for service on the Central Vermont. The Canadian National has also ordered 20 sleeping cars, to contain 12 sections and one drawing room; five compartment observation cars, containing four compartments and six sections, and 12 dining cars from the Canadian Car & Foundry Company, Ltd. Orders were also placed for 10 first-class coaches, 12 baggage cars, and four combination smoking and baggage cars with the National Steel Car Corporation. Inquiry for this equipment was reported in the *Railway Age* of January 15.

Long Island to Retire Wooden Coaches; Orders 127 Steel Cars

The Long Island announces that by the end of 1927, every passenger carrying car operated in both steam and electric train service on the Long Island system will be of steel construction. The Long Island will be the first Class I railroad in the United States to retire all remaining wooden cars, and place its passenger carrying equipment on a 100 per cent steel basis. Orders have been placed with the American Car & Foundry Company for 127 new steel passenger cars. Of these 117 will be coaches and 10 combination passenger and baggage cars. As wooden cars have not been operated in electric passenger train service for many years, the new steel cars just ordered will be used on steam trains, although they will be of such a type as may be readily converted into electric motor or trailer cars.

This new equipment represents an investment of $2,114,188. In addition to the cars covered by this new authorization, the company will put in service this year 114 new steel passenger cars now under construction at a cost of $2,902,286. The latter order includes 60 motor cars, 30 trailer cars for electric service, and 20 coaches and 4 combination cars for steam service.

For a number of years the Long Island Railroad management has been rapidly eliminating wooden cars in passenger service, until to-day nearly 90 per cent of all passenger equipment owned and operated by the company are steel cars.

Upon delivery of the 127 cars just authorized by the board of directors, and the 114 now being built, the Long Island will have a total of 1,411 steel passenger carrying cars and no wooden cars.

Iron and Steel

THE SOUTHERN PACIFIC is inquiring for 11,000 tons of tie plates and 30,000 kegs of spikes and bolts.

THE BOSTON & MAINE is in the market for about 15,000 tons of rail, 1,000,000 tie plates and the necessary angle bars and bolts.

Machinery and Tools

THE CHICAGO & EASTERN ILLINOIS has ordered a No. 4 car wheel lathe from the Niles-Bement-Pond Company.

THE NEW YORK CENTRAL has ordered a 90-in. locomotive wheel quartering machine from the Niles-Bement-Pond Company.

Supply Trade

Edmond P. Burke, representative of the Los Angeles Iron & Steel Company, has been appointed a representative of the **Truscon Steel Company,** with headquarters at San Francisco, Cal.

Harry M. Runkle, president of the International Derrick & Equipment Company, Columbus, Ohio, has been elected a director of the **American Rolling Mill Company,** Middletown, Ohio.

The Graybar Electric Company has opened a new distributing house at 921 Barr street, Fort Wayne, Ind. **Fred M. Barley** is the sales manager and **Harold T. Thompson** service manager, at Fort Wayne.

R. A. Foster, vice-president of the **L. B. Foster Company,** Pittsburgh, Pa., is in charge of the office recently opened by this company in Chicago, in the Illinois Merchants Bank building, 231 La Salle street.

Harry Howe has been appointed engineer of railway equipment of the **Manganese Steel Forge Company,** Philadelphia, Pa. Mr. Howe resigned as special engineer for the Pressed Steel Car Company after 21 years' service.

W. H. S. Bateman has been appointed district sales manager of the **Detroit Seamless Steel Tubes Company,** Detroit, Mich., in charge of the southeastern district, with headquarters at 823 Commercial Trust building, Philadelphia, Pa.

Mather Garland has been appointed acting general manager of the **Hageman-Castle Corporation** of Chicago, replacing W. E. Kelly, resigned. The Hageman-Castle Corporation is owned and controlled by the **National Railway Appliance Company** of New York, with branch offices at Boston and Washington.

George M. Dyke, assistant secretary of the **Chain Belt Company,** Milwaukee, Wis., has been appointed secretary of the **Stearns Conveyor Company,** Cleveland, Ohio, which is owned by the former company. **W. H. Brandt,** advertising manager of the Chain Belt Company, has been appointed assistant secretary, to succeed Mr. Dyke.

Arthur C. Pletz has been appointed sales manager of the miscellaneous machinery department of the **Niles Tool Works Company** division of the **Niles-Bement-Pond Company,** with headquarters at Hamilton, Ohio. Mr. Pletz for the last 12 years was secretary and general manager of the Morris Machine Tool Company. **L. A. Quinn** has been appointed acting manager of the Birmingham, Ala., office of the Niles Tool Works Company, in place of N. C. Walpole, deceased.

G. LaRue Masters, in charge of sales in the United States and Canada, of the car window equipment department of the **National Lock Washer Company,** Newark, N. J., has been appointed assistant general sales manager of the company. A photograph of Mr. Masters and a sketch of his career were published in the *Railway Age* of July 3, 1926.

The Pettibone Mulliken Company, Chicago, has purchased the Interstate Railway Supply Company, Cleveland, Ohio. **Albert Swartz,** who was sales manager of the Interstate Railway Supply Company, joined the staff of the Pettibone Mulliken Company and will take charge of sales of manganese guard rails and rail anchors, formerly sold by the Interstate Railway Supply Company.

H. O. K. Meister has been appointed general sales manager and **A. W. Scarratt,** chief engineer of the **Hyatt Roller Bearing Company,** Newark, N. J. Mr. Meister joined the Hyatt forces more than fourteen years ago, serving first as an engineer at the home office in Newark. Later he was transferred to the Chicago office where, after a few years, he took over the supervision of Hyatt sales work in the western territory. Eighteen months ago he was appointed assistant sales manager, with headquarters at Newark, where he will continue to be located as general sales manager. Mr. Scarratt is experienced in the design and construction of autotomotive, tractor, railroad and industrial equipment. He joined the Hyatt engineering staff a few months ago as assistant chief engineer. His headquarters are at Newark. The Pittsburgh offices of the Hyatt Roller Bearing Company, recently named as headquarters for the central sales division, are now located at 806 Fulton building. They were formerly at 1352 Union Trust building. **B. H. Lytle** is in charge of the central division. **H. R. London** has joined the Pittsburgh force.

Obituary

Powell Stackhouse, formerly president of the Cambria Steel Company, died on February 4 at St. Petersburg, Fla.

L. E. Osborne, mechanical engineer of the Locomotive Stoker Company, died on January 30, in the Bellevue Suburban Hospital, Pittsburgh, Pa., following an attack of pneumonia, at the age of 45 years. Mr. Osborne received his technical education at the George Peabody College, Nashville, Tenn., and the Virginia Polytechnic Institute. After he graduated from the latter school in 1906 he entered the service of the Norfolk & Western and worked for three years in the mechanical department under J. A. Pilcher. In 1909 he joined the engineering staff of the Westinghouse Air Brake Company where he assisted in the development of the Street mechanical stoker. When the Locomotive Stoker Company was formed in 1913 and located at Schenectady, N. Y., he was one of the original staff of employees, serving in the capacity of designing engineer. Upon removal of the company to Pittsburgh in

L. E. Osborne

1916 he was appointed mechanical engineer, which position he held until the time of his death.

Trade Publications

MOVABLE BRIDGE ACCESSORIES.—The Norwood-Noonan Company, Chicago, has issued a 30-page catalog which presents in loose leaf form the special equipment manufactured and installed by this company for the control and operation of movable bridges. Certain pages, also, are devoted to descriptions and illustrations of electric crossing gates, bridge and pier lamps, warning signals, gasoline power units, etc.

AMTORG CATALOG OF AMERICAN INDUSTRY AND TRADE—The Amtorg Trading Corporation, New York, purchasing and sales agent for Russia in the United States, has issued this publication, which, it is asserted, is the most elaborate commercial compendium of the United States ever prepared for distribution in a foreign country. It is printed in Russian and will be placed in the hands of every business and trade executive and all important purchasing agents, technical men and professors of the Russian Soviet Union. It is a heavy volume of 1,076 large pages, 9 in. x 12 in., with 2,800 illustrations, handsomely bound and printed on gloss paper. The volume's 643 pages of American advertising contain the insertions of 382 manufacturers of 30 states and Canada. Following the advertising section is a complete index of 155 pages, alphabetically listing American manufacturing products, with the makers of each. Seven thousand products are listed in the index, with 45,000 firms and corporations.

THE SOUTHERN announces the completion of automatic block signals—three-position upper-quadrant semaphores—between Chattanooga, Tenn., and Macon, Ga., 240 miles, together with intermittent inductive automatic train control apparatus. The number of locomotives equipped for automatic train control is 75.

Construction

ATLANTIC CITY.—This road has been granted authority by the Interstate Commerce Commission to construct a branch line from its main line in West Cape May in a westerly direction for 2.64 miles to a terminal at the western end of Sunset boulevard, Cape May Point, adjacent to the wharf of the Lewes-Cape May Ferry Company, to cost about $107,358.

BALTIMORE & OHIO.—A contract has been awarded to Milo Hanke of Cincinnati, O., for the construction of a yard office at Rossford, Toledo, O., at an estimated cost of $25,000.

BALTIMORE & OHIO.—Bids will close on March 1 for the construction of a 600-ton four track concrete coaling station, sanding facilities and ash-handling equipment at Ohio Junction, Ohio.

BESSEMER & LAKE ERIE.—This company has authorized the replacing of present timber highway bridge with new steel bridge, with concrete floor and foundations at Hulton road, Black's Run, Pa., at an estimated cost of $30,000, which work is to be done by railroad company forces.

CENTRAL OF GEORGIA.—Bids will be received on February 25, 1927, for the construction of a viaduct on Bay street at Savannah, Ga., which, it is estimated, will cost $500,000.

CHICAGO & NORTH WESTERN.—A contract has been let to the Ellington Miller Company, Chicago, for the construction of a pattern storage house at the Crawford avenue, Chicago, shops at a cost of about $25,000.

CHICAGO, MILWAUKEE & ST. PAUL.—The federal court at Chicago has authorized the expenditure of $75,000 for the renewal of a 54-span pile trestle, 850 ft. long and 59 ft. high, at Manitou, Wash. Embankment will be substituted for 8 spans at the east end of the present bridge and for 23 spans on the west end.

CHICAGO, ROCK ISLAND & PACIFIC.—Company forces will be employed in the erection of bridges for second main track between McFarland, Kan., and Alta Vista, 20 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—This company's budget for 1927 provides for the construction of second main track between McFarland, Kan., and Alta Vista, 22 miles, completing the double track between Topeka, Kan., and Herington, 82 miles, and from Hutchinson, Kan., to a point three miles west, involving a total expenditure of about $1,000,000. Company forces will be employed in the erection of bridges for the second track. Water-treating plants will be constructed at Armourdale, Kan., and Marion and Shawnee, Okla., with additions to yards planned for Joliet, Ill., and Peoria, Newton, Iowa, Armourdale, Kan., and Herington, Sayre, Okla., and Shawnee. Additions to shops and roundhouses will be

constructed at Silvis, Ill., Chicago and Peoria, Valley Junction, Iowa, Council Bluffs, and Cedar Rapids, Trenton, Mo., Herington, Kan., Dalhart, Tex., and Amarillo. The construction of a line across the South Canadian river, north of Amarillo, Tex., has been authorized for completion to Stinnett by June 30. This project will include the construction of a temporary bridge over the South Canadian river. The present line is practically completed to Fritch, Tex., 34 miles, and the new construction north of the South Canadian river to Stinnett involves 15 miles of line.

DELAWARE, LACKAWANNA & WESTERN.—A contract has been awarded to the American Bridge Co. of New York City, for the Hackensack River Drawbridge at Kearny, N. J., which is estimated to cost $1,000,000. This company has also awarded a contract to the Foundation Co., New York City, for steel work and piers at an estimated cost of $1,000,000, and another contract has been awarded to H. F. Curtis, New York City, for approaches, concrete work and filling to cost about $1,000,000. A contract has also been awarded to James A. Hart Co., New York City, for grade crossings, elimination and passenger station at Paterson, N. J., at an estimated cost of $300,000.

DENVER & RIO GRANDE WESTERN.—This company is preparing plans for the construction of a water treating plant at Pueblo, Colo., at an estimated cost of $50,000.

ERIE.—This road is receiving bids on a reinforced concrete warehouse at Youngstown, O., the bids being returnable on February 17.

FAIRPORT, PAINESVILLE & EASTERN.—This company has applied to the Interstate Commerce Commission for authority to build a line from a point near Painesville to a point near Madison, Ohio, about 6 miles, and a spur of 2 miles.

ILLINOIS CENTRAL.—This company, the Louisville & Nashville, the Nashville, Chattanooga & St. Louis and the Union have reached an agreement with the City of Memphis whereby the four railroads will bear 80 per cent of the cost of constructing the Aulon viaduct over their lines at Memphis, Tenn. The viaduct, which will be 2,300 ft. long and 36 ft. wide, will involve an expenditure of approximately $300,000.

LONG ISLAND.—This road intends to spend approximately $43,000,000 for construction work in the next five years according to George Le Boutillier, vice-president and testifying before the Public Service and Transit Commissions of the increase in commutation rates. Grade crossing elimination would require $13,200,000; opening new streets across the railroad's right of way, $1,000,000; electric, $11,500,000; automatic train control, $1,650,000; $5,000,000 for a terminal at Diagonal street, Long Island City; $2,000,000 for improvements related to grade crossing elimination; $2,000,000 for increased power facilities; $4,000,000 for additional freight facilities; $500,000 additional shop facilities; $1,000,000 for new passenger stations and lengthening platforms of existing stations; and $1,000,000 for additional tracks.

MISSOURI-KANSAS-TEXAS.—The budget of this company for 1927 includes the replacement of the superstructures of three steel bridges, one 200-ft. long at Boughner, Mo., another 150-ft. long at Rocheport, Mo., and a third 143-ft. long at Crowder, Okla., with through riveted truss spans designed for Cooper's E-60 loading. Negotiations are under way between this company, the Houston & Texas Central and the City of Ft. Worth, Tex., for the construction of a reinforced concrete highway undercrossing at Capps street, to cost about $250,000.

NEW YORK, NEW HAVEN & HARTFORD.—A contract has been awarded to Henry R. Kent & Co. of Rutherford, N. J., for alterations to an engine room and addition to power plant facilities at Readville, Dedham, Mass., at an estimated cost of $150,000.

PENNSYLVANIA.—A contract has been awarded to Hoeffer & Co. of Chicago, Ill., for the construction of superstructure for the 51st street subway at Chicago.

READING.—Contracts have been awarded to Swanger & White, Lebanon, Pa., for grading and masonry, and the Le-Roy Roofing Company for waterproofing, in connection with rebuilding two three-track bridges Nos. 26/02 and 26/70 on the Gettysburg and Harrisburg Railroad, Harrisburg division, located east of Moor's Mill, Cumberland county, Pa. The Reading also plans to strengthen six bridges between Boiling Springs and Harrisburg, Pa. These bridges are located at White Hill, two at Dillsburg and Mechanicsburg Junction and four between Carlisle Junction and Mt. Holly.

ST. LOUIS-SAN FRANCISCO.—A contract for the grading and bridge work on the new line between Kimbrough, Ala., and Demopolis, 42.7 miles, has been awarded to John A. Kries & Son, Knoxville, Tenn. The contract for the grading and bridging on the portion of the line between Aliceville, Ala., and Demopolis, 50.8 miles, has been let to the S. G. Kershaw Contracting Company, Birmingham, Ala.

Railway Finance

ALABAMA CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has issued a certificate authorizing this company to abandon its line from Jasper, Ala., to Manchester, 6.7 miles, and to cease operation of the railroad owned by the Manchester Saw Mills, Manchester, Ala., to Sunlight, 6.3 miles, and of the line of the Manchester Coal Company from Manchester to that company's mine, 2.25 miles.

ANN ARBOR.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net corporate income after interest and other fixed charges of $422,963, equivalent after allowance for 5 per cent dividends on the preferred stock to $6.86 a share on the common stock. Net income in 1925 was $459,679 or $7.99 a share.

ATLANTIC COAST LINE.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue, sell and deliver $8,809,000 of its general unified mortgage 4½ per cent gold bonds to reimburse its treasury for expenditures in the retirement of its underlying mortgage bonds and $6,000,000 of ten-year 7 per cent notes. It is proposed to sell the bonds to J. P. Morgan & Co., on May 15, 1927, at a figure justified by market conditions existing on that date.

BALTIMORE & OHIO.—*Control of Indian Creek Valley.*—The Interstate Commerce Commission has approved the acquisition by this carrier of the Indian Creek Valley under an operating agreement. The company's line extends from a connection with the Baltimore & Ohio at Indian Creek, Pa., northeast to Blair mine, 27 miles.

BANGOR & AROOSTOOK.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $914,325, equivalent after allowance for 7 per cent dividends on the preferred stock to $8.68 a share on the $50 par value common stock. Net income in 1925 was $723,628 or $6.21 a share.

BOSTON & MAINE.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $6,573,404 as compared with $5,468,909 in 1925.

CAROLINA, CLINCHFIELD & OHIO.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $1,500,000 of first and consolidated mortgage 5 per cent bonds for the purpose of refunding by exchange a like amount of collateral trust convertible notes of the Holston Corporation, which were guaranteed by the railroad company.

CHESAPEAKE & OHIO.—*To Become Key Road in Van Sweringen System.*—The board of directors meeting in Cleveland on February 7 authorized the filing of petitions to the Interstate Commerce Commission for authority to sell $59,502,400 common stock at par and for permission to acquire stock control of the Erie and Pere Marquette. W. J. Harahan, president, issued a statement giving further details as follows:

"In pursuance of recommendations by a special committee of its board, the Chesapeake & Ohio has already acquired in the open market, substantial holdings of shares in the Erie and in the Pere Marquette. It also has secured from O. P. and M. J. Van Sweringen options on additional holdings of Erie, which when exercised with the consent of the Interstate Commerce Commission, will give the Chesapeake & Ohio substantial stock control of the Erie.

"In pursuance of the recommendations of the same committee, the Chesapeake & Ohio has acquired options from the Nickel Plate road for

its interests in Pere Marquette, the option price fixed by negotiations with John J. Bernet, then president of the Nickel Plate. The Messrs. Van Sweringen have also optioned their own Pere Marquette holdings at the same price.

"The special committee which conducted these negotiations, acting under the direction and with the approval of the Chesapeake & Ohio directors, was composed of John Stewart Bryan and George Coole Scott, of Richmond, Va.; Otto Miller and Frank H. Ginn, of Cleveland, and President Harahan, of the Chesapeake & Ohio Railway.

"The new Chesapeake & Ohio stock, if authorized by the Interstate Commerce Commission, will be offered to common stockholders of the company on the basis of one-half new share for each share held, and since it would be sold at par, it would bring $59,502,400 to the company's treasury.

"The Interstate Commerce Commission nearly a year ago held that a proposed grouping of railroads, including Erie, Pere Marquette and Chesapeake & Ohio was, from a transportation standpoint, in the public interest, and the logic of the decision was to the effect that the Chesapeake & Ohio should be its backbone.

"Accordingly, it is the purpose of the Chesapeake & Ohio, with the approval of the Interstate Commerce Commission, to broaden and strengthen its system by the acquisition of lines supplemental to it, and in that direction the plan proposed, it is believed, will lead to the creation of a great transportation system able to efficiently complete with the New York Central, Baltimore & Ohio and Pennsylvania systems."

1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $29,294,803 equivalent after allowance for dividends on the preferred stock to $24.75 a share on the common stock. Net income in 1925 was $20,152,270 or $21.32 a share.

Director Resigns.—John Stewart Bryan of Richmond, Va., representative of the minority interests, who was later elected a director, has resigned, giving as a reason the pressure of personal business.

CHICAGO & EASTERN ILLINOIS.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges and allowance for sinking funds of $418,905, equivalent to $1.90 a share on the cumulative 6 per cent preferred stock. In 1925 there was a deficit of $53,285.

CHICAGO & NORTH WESTERN.—*Bonds Sold.*—Kuhn, Loeb & Co. and the National City Company offered on Thursday $20,572,000 first and refunding mortgage 4½ per cent bonds due May 1, 2037, at 95 and accrued interest, to yield about 4.74 per cent. The purpose of these bonds is to reimburse the treasury for expenditures heretofore made for additions and betterments, for the payment of $6,545,000 matured prior lien bonds and for other corporate purposes.

CHICAGO & WESTERN INDIANA.—*Bonds.*—The Interstate Commerce Commission has authorized the issue of $281,000 consolidated mortgage bonds to be delivered to the tenant companies in payment for sinking fund advances.

CHICAGO, BURLINGTON & QUINCY.—*Abandonment of Branch.*—The Interstate Commerce Commission has issued a certificate authorizing this company to abandon its Chalco-Yutan cut-off from Chalco Junction, Neb., towards Yutan, 7 miles. This line was completed in 1921 to furnish a more direct route between Omaha and points north of Yutan but was operated only from May 1, 1923, to January, 1924.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $1,689,640 equivalent after allowance for preferred dividends to $14.19 a share on the common stock. Net income in 1925 was $1,620,749 or $13.53 a share.

CHICAGO, MILWAUKEE & ST. PAUL.—*Sale Approved.*—The sale of the properties of this company which took place at Butte, Mont., on November 22, has been approved by a decree of confirmation entered in all judicial districts in which the properties are represented, thereby making it possible to begin the execution of the foreclosure proceedings. Because of the railroad's property holdings in 11 states it was necessary to secure confirmation of the sale in four judicial circuits by the federal courts at Minneapolis, Minn., Great Falls, Mont., Grand Rapids, Mich., and New York.

DETROIT & IRONTON.—*Acquisition.*—Oral argument was heard by Division 4 of the Interstate Commerce Commission on February 1 on the application of this company for authority to acquire control of the Detroit, Toledo & Ironton, which is opposed by minority stockholders of the latter who have declined to accept the offer of the Ford interests to pay $104 for their stock and who object to the entire plan of reorganization.

ERIE.—*Stock in Conversion of Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $39,254,200 of common stock in exchange for its series D general mortgage bonds when surrendered for conversion.

GLASGOW.—*Stock.*—The Interstate Commerce Commission has authorized a stock dividend of $100,000. This company is leased to the Louisville & Nashville. Commissioner Woodlock, in a concurring decision, gave his views as follows:

> A stock dividend is (in the case of stock bearing a defined par value) only another way of expressing a principle to which this commission has given its unqualified approval, viz., the principle of using stock rather than bonded debt as a method of raising new capital. The only difference is one of chronology in expression. In the one case the stockholders' money is first withheld by the directors from stockholders and then expended for property, after which stock is issued to represent these expenditures. In the other case, stock is sold first to stockholders and the proceeds are expended later. Therefore, no valid objection can be raised in principle to stock dividends, in the case of stocks with defined par value, seeing that their only effect is to make capital issues more accurately reflect capital expenditures.
>
> The case is, of course, different where non-par stock is concerned.

Commissioner Eastman dissented, saying in part:

> It has not been shown that this stock dividend is "reasonably necessary" for any corporate purpose or that it is "compatible with the public interest." Applicant has used some of its income to pay matured bonds and for additions and betterments to its property. This has strengthened the position of its outstanding stock and made it more valuable. Any return to which it is lawfully entitled and which it is able to earn hereafter can be paid in dividends, if so desired, on that stock. Not a penny more can be paid by reason of the proposed stock dividend. The effect of that dividend will be to reduce the value of the stock per share and to make it more difficult to market new stock at par if the need should ever arise. To that extent the financial situation of the applicant will be impaired to the detriment of the public interest.

INTERNATIONAL-GREAT NORTHERN.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges but before interest on adjustment mortgage bonds of $1,364,388 equivalent to 8.02 per cent on the 6 per cent adjustment mortgage bonds. Net income in 1925 was $1,127,489 or 6.63 per cent on the adjustment mortgage bonds.

INTERNATIONAL RAILWAYS OF CENTRAL AMERICA.—*Bonds Sold.*—J. Henry Schroder Banking Corporation, Blyth, Witter & Co., and White, Weld & Co., offered on January 10, $7,500,000 first lien and refunding mortgage 6½ per cent bonds at 92 and accrued interest, giving a yield of over 7.25 per cent. The proceeds from the sale of these bonds will be applied in part toward financing the construction of 197 miles of line in Guatemala and Salvador and for other corporate purposes.

MAINE CENTRAL.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $1,270,397 equivalent after allowance for dividends on the 5 per cent preferred stock to $9.28 a share on the common stock. Net income in 1925 was $1,177,000 or $8.55 a share.

MOBILE & OHIO.—*Equipment Trust.*—The Interstate Commerce Commission has approved an issue of $1,450,000 4½ per cent equipment trust certificates, series P, to be sold to the First National Bank of New York at 98.4891. The railroad invited bids from 14 of the larger banking houses for the purchase of the certificates. The equipment includes 5 locomotives, 13 passenger train cars, 650 freight cars, 15 air dump cars, a wrecking crane, 3 railmotor cars and 2 trailers, having a total approximate cost of $1,817,250.

NEW ORLEANS, TEXAS & MEXICO.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $1,874,560, equivalent to $12.49 a share on the capital stock. Net income in 1925 was $2,514,163 or $16.75 a share.

NORFOLK & WESTERN.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $36,804,188 equivalent after allowance for dividends on the 4 per cent preferred stock to $26.13 a share on the common stock. Net income in 1925 was $26,564,759 or $18.68 a share.

NORFOLK SOUTHERN.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $813,577 equivalent to $5.08 a share on the capital stock. Net income in 1925 was $512,523 or $3.20 a share.

NORFOLK SOUTHERN—*Equipment Trust*—This company has applied to the Interstate Commerce Commission for authority for an issue of $300,000 of 4½ per cent equipment trust certificates, to be used in the acquisition of three freight locomotives at a cost of $41,000 each and 150 50-ton composite gondola cars, at a cost of $1,915 each. The company advertised for bids and the highest received was that of the Mercantile Trust & Deposit Company of Baltimore and Strother, Brogden & Co., of 97.18.

PHILADELPHIA & CAMDEN FERRY COMPANY.—*Reduction of Capitalization.*—Notices were mailed to the stockholders on February 3 of a special meeting to be held on February 18 at Camden, at which meeting the stockholders will be asked to approve a reduction in the total authorized capital stock of the company from $2,000,000 to $1,600,000, and in the par value from $50 to $40 per share.

SOUTHERN.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $23,596,722 equivalent after allowance for dividends on the 5 per cent preferred stock to $17.16 a share on the common stock. Net income in 1925 was $22,579,172 or $16.32 a share.

SOUTH OMAHA TERMINAL.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire the railway properties of the Union Stock Yards Company of Omaha, including 38.8 miles of track, for $1,650,000, to be paid in capital stock of the railway company at par.

SOUTHERN PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon the line between Crump, Calif., and Alcalde, 3.18 miles.

VIRGINIAN.—*Bonds.*—The Interstate Commerce Commission has authorized this company to procure the authentication and delivery of $3,663,000 first mortgage 5 per cent 50-year bonds.

VIRGINIAN.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $6,717,047 equivalent after allowance for dividends on the preferred stock to $16.12 a share on the common stock. Net income in 1925 was $3,859,047 or $6.98 a share.

WESTERN MARYLAND.—*Stock for Conversion.*—This company has applied to the Interstate Commerce Commission for authority to re-issue $10,000,000 of common stock to be exchanged for second preferred stock which may be offered for conversion.

WHEELING & LAKE ERIE.—1926 *Earnings.*—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of $3,507,354 equivalent to $29.51 per share on the prior lien stock as compared with $3,286,278 or $27.65 a share on this in 1925. No preferred dividends on this issue have been paid so that there are over 70 per cent accumulated dividends in arrears. After allowance for 7 per cent dividends on this issue and for 6 per cent dividends on the 6 per cent preferred stock net was equivalent to $6.10 a share on the common stock as compared with $5.45 in 1925.

WHEELING & LAKE ERIE.—*Common Stock for Conversion.*—An application for authority to issue $22,227,600 of common stock to be exchanged for 118,826 shares of prior lien stock and 103,450 shares of preferred stock, as tendered for conversion was filed with the Interstate Commerce Commission on February 8 after a conference between Andrew P. Martin, vice-president of the Wheeling & Lake Erie, and Director Mahaffie of the commission's Bureau of Finance. It is understood that the conference had to do with the question of expediting the matter because the stock is desired to relieve a technical "corner" in the New York stock market caused in part by short selling of common stock by owners of preferred stock who had relied on the conversion privilege. The company in its application submits that the authority of the commission for the issue of common stock is not required because the preferred and prior lien stock had been issued with the conversion privilege prior to the enactment of the law which gives the commission jurisdiction over security issues. It is stated that the commission should disclaim jurisdiction but if it decides that it has jurisdiction it is asked to make its decision effective at the earliest possible date.

Dividends Declared

Buffalo, Rochester & Pittsburgh.—Common, $2.00, semi-annually; preferred, $3.00, semi-annually, both payable February 15 to holders of record February 11.

Chicago, Rock Island & Pacific.—Common, $1.25, initial, payable March 31 to holders of record March 11.

Louisville, Henderson & St. Louis.—Common, 2½ per cent, semi-annually; preferred, 2½ per cent, semi-annually.

Maine Central.—Preferred, 1¾ per cent, —quarterly, payable March 1 to holders of record February 15.

Average Price of Stocks and Bonds

	Feb. 8	Last week	Last year
Average price of 20 representative railway stocks..	104.34	102.77	94 67
Average price of 20 representative railway bonds..	98.33	98.16	95.14

Valuation Reports

The Interstate Commerce Commission has issued final or tentative valuation reports finding the final value for rate-making purposes of the property owned and used for common-carrier purposes, as of the respective valuation dates, as follows:

FINAL REPORTS

Denver & Salt Lake.....	15,035,500	1919
Strasburg Railroad.....	60,000	1917
Galveston Wharf Co.....	13,635,000	1917
East Tennessee & Western North Carolina.....	1,613,600	1916
Stockton Terminal & Eastern	222,297	1916

Railway Officers

Changes in Personnel on the Georgia & Florida

The following changes in personnel have been made on the Georgia & Florida, due to the recent re-organization of the property: **R. L. Williams** has been elected chairman of the board; **H. W. Purvis,** formerly receiver and general manager, has been elected president; **S. W. Saye,** formerly assistant to the general manager and purchasing agent is now vice-president and will continue as director of purchases; **D. C. Porteous** has been elected secretary; **M. T. Lanigan,** formerly auditor, has been elected auditor and assistant secretary; **W. Blanchard** retains his position as treasurer, and **M. H. Purvis** has been appointed assistant purchasing agent. With the exception of Mr. Williams, whose headquarters are at Baltimore, Md., the headquarters of all these officers are at Augusta, Ga. **Hull, Barrett & Willingham** of Augusta, Ga., will be the general counsel.

Executive

Isaac B. Smith, treasurer and traffic manager of the Wyoming, with headquarters at Cedar Rapids, Iowa, has been elected president, with the same headquarters.

Martin J. Alger has been elected president of the Merchants Despatch Transportation Company and of the Merchants Despatch, Inc., with headquarters at 100 East Forty-fifth street, New York, to succeed **Emery H. Smith,** deceased.

Charles M. Sheaffer, who has been promoted to assistant vice-president—operation—of the Pennsylvania, with headquarters at Philadelphia, was born on March 4, 1858, at Pittsburgh, Pa., and was graduated from the commercial department of the Pittsburgh Central High School in 1874. He entered railway service on April 1, 1877, as a messenger in the office of the superintendent of the Pittsburgh division of the Pennsylvania, and until July 1, 1901, was consecutively telegraph operator, yardmaster, train dispatcher and division operator of the same road. From July 1, 1901, until June 1, 1903, he was superintendent of telegraph, and from the latter date until March 3, 1911, was superintendent of passenger transportation. He then became general superin-

C. M. Sheaffer

tendent of transportation of the lines East of Pittsburgh and Erie, which position he held until February 29, 1920. On March 1, 1920, he became chief of transportation of the Pennsylvania System, which position he was holding at the time of his recent promotion. During 1917 Mr. Sheaffer was chairman of the Commission on Car Service, American Railway Association at Washington, D. C., under the Railroads' War Board.

L. F. Schrader, attached to the office of the senior vice-president of the Chicago & Illinois Midland, with headquarters at Springfield, Ill., has been promoted to assistant to the senior vice-president, with the same headquarters.

Augustus E. Ruffer, transportation manager of the Erie, with headquarters at New York, has been appointed transportation assistant-vice-president, with the same headquarters, effective February 15. Mr. Ruffer was born on July 23, 1875, at Port Jervis, N. Y., and entered railway service on October 19, 1889, as messenger for the Erie and served for two years in the dispatcher's and superintendent's office. He then was appointed assistant clerk to the chief dispatcher and from 1894 until 1896, was a clerk in the superintendent's office. From 1896 until 1905, he served in the office of the superintendent of transportation in various capacities. He left the service of the Erie in 1905 to become special agent in the operating department of the Lehigh Valley, but returned to the Erie in 1906, and served there in a similar capacity. He was appointed trainmaster of the Susquehanna division on May 1, 1911, and in May, 1912, was transferred to the New York division as assistant superintendent, with headquarters at Jersey City, N. J. On December 1, 1915, he was appointed superintendent of the Wyoming division at Scranton, Pa., and was appointed superintendent of transportation in 1917. Mr. Ruffer served as transportation assistant of the Eastern region during Federal control. He has since served as general superintendent of transportation, general superintendent and transportation manager, which position he was holding at the time of his recent appointment.

A. E. Ruffer

Robert C. Falconer, assistant to the president and chief engineer of the Erie, with headquarters at New York, has been appointed engineering assistant-vice-president, with the same headquarters, effective February 15. Mr. Falconer was born on March 21, 1874, at St. Mary's, Pa., and was graduated from the University of Wisconsin in 1895. He entered railway service in December, 1898, and until May, 1901, served consecutively as transitman and resident engineer on the Pennsylvania, Lines West of Pittsburgh. From May, 1901, until October, 1905, he was out of railway service, and then returned and served as assistant engineer in the construction department of the Erie until October, 1911. He then became division engineer of the New York division, which position he held until October, 1912, when he was advanced to principal assistant engineer of the same road. From February, 1913, until January, 1916, he served as superintendent of construction, and from the latter date until July, 1918, was assistant chief engineer. At the latter time Mr. Falconer was appointed assistant to the president and chief engineer of the same road at New York, which position he was holding at the time of his recent appointment.

R. C. Falconer

J. E. Dalrymple, who recently retired from the office of vice-president in charge of traffic of the Canadian National, has been appointed president of Canada Coal, Ltd., a new Canadian steam and gas coal company, the activities of which will extend from the head of the Great Lakes to the Atlantic.

John J. Mantell, vice-president of the New York region of the Erie, with headquarters at New York City, has been appointed resident vice-president, with the same headquarters, with jurisdiction over the New York district, comprising lines east of and including Port Jervis, N. Y., and Stroudsburg, Pa., effective February 15.

Financial, Legal and Accounting

Cedric A. Major, who has been appointed assistant general counsel of the Lehigh Valley, with headquarters at New York City, was born on July 4, 1891, at Otisville, N. Y. Mr. Major was graduated from Cornell University in 1912, and entered railway service on September 26, 1916, with the Lehigh Valley. He was appointed assistant general solicitor on July 1, 1920, which position he was holding at the time of his recent appointment as assistant general counsel.

C. A. Major

Frank J. Moran, who has been appointed auditor of disbursements of the Reading, with headquarters at the Reading Terminal, Philadelphia, was born on December 3, 1890, in Boston, Mass., and attended the public schools of Boston and was graduated from the High School of Commerce in 1910. He entered railway service in 1913, with the Boston & Maine, as a clerk in the auditor of disbursements' office. He held various positions in this office until May, 1920, with the exception of the period from November, 1917, to August, 1919, during which time he was furloughed for service in the United States

F. J. Moran

Army, when he accepted a position of accountant with the United States Railroad Administration. He resigned from this position in February, 1921, to take the position of examiner with the bureau of accounts, Interstate Commerce Commission, remaining with it until December 1, 1926, when he accepted the position of special accountant with the Reading, which position he was holding at the time of his recent appointment as auditor of disbursements.

Carter, Jones & Turney, St. Louis, Mo., have been appointed general solicitors of the St. Louis Southwestern, succeeding **J. R. Turney** who has resigned to enter this law firm to engage in the general practice of law.

Operating

George L. Morrison has been appointed general agent on the Spokane International, with headquarters at Spokane, Wash.

Charles F. Thomas, superintendent of the Nezperce & Idaho, with headquarters at Nezperce, Idaho, has been promoted to general superintendent, with headquarters at the same point.

Emmett Riley, trainmaster on the Elgin, Joliet & Eastern, with headquarters at Joliet, Ill., has been promoted to superintendent, with the same headquarters, succeeding **Ray F. Beaudry,** deceased.

Raymond D. Ross, assistant superintendent of the Cincinnati terminals of the Louisville & Nashville, with headquarters at Cincinnati, Ohio, has been promoted to superintendent of the Cincinnati terminals, succeeding **Brent Arnold,** deceased.

J. J. Moynihan, supervisor of transportation of the Erie, with headquarters at New York, has been appointed superintendent of transportation, with the same headquarters. **H. J. Klein,** superintendent of transportation of the Ohio region, with headquarters at Youngstown, O., has been appointed general manager of the Western district, comprising lines west of Buffalo, N. Y., and Salamanca, N. Y., with the same headquarters. These appointments are effective February 15.

C. W. Pace, inspector of transportation on the Missouri Pacific, with headquarters at St. Louis, Mo., has been appointed assistant superintendent on the Colorado division with jurisdiction over the Horace district, including Horace yard, with headquarters at Pueblo, Colo., succeeding **K. B. Shaver,** resigned. **G. R. Mabie** has been appointed trainmaster of the Council Grove and Salina districts of the Central Kansas division, with headquarters at Council Grove, Kan., succeeding **J. M. Smith,** who has been transferred to the Hoisington district, including Hoisington yard, of the Colorado division, with headquarters at Hoisington, Kan. **S. E. Ridlon,** trainmaster on the Missouri division, with headquarters at Poplar Bluff, Mo., has been given jurisdiction over the DeSoto, Potosi, Belmont and Jackson districts and that portion of Poplar Bluff district, Birds Point to Poplar Bluff, including Poplar Bluff yard. The jurisdiction of **M. F. White,** trainmaster of the Hoxie district of the Arkansas division, with headquarters at Little Rock, Ark., has been extended to include the portion of the Poplar Bluff district south of Poplar Bluff and the Doniphan district.

Frank W. Grace, who has been promoted to general superintendent of the Missouri-Kansas-Texas, with headquarters at Denison, Tex., was born on February 10, 1880, at Denison and entered railway service on September 17, 1894, as a call boy on the Missouri, Kansas & Texas of Texas. He was subsequently employed on the Katy as a station helper, seal clerk, brakeman and yard master and in 1914 he was advanced to train master, with headquarters at Parsons, Kan. He was promoted to superintendent, with headquarters at

Frank W. Grace

Wichita Falls, Tex., in 1919, being transferred to Muskogee in 1923, a position he held, with jurisdiction including the McAlester district, until his promotion to general superintendent, effective February 1.

Robert E. Woodruff, division superintendent of the Erie, with headquarters at Buffalo, N. Y., has been appointed general manager, Eastern district, with headquarters at Hornell, N. Y., his jurisdiction comprising lines west of Port Jervis, N. Y., and Stroudsburg, Pa., to and including Buffalo, N. Y., and Salamanca, N. Y., effective February 15. Mr. Woodruff was born in 1884 at Green Bay, Wis., and was educated at Purdue University. He entered railway service in 1905 as a section hand on the Erie and until March, 1909, was consecutively track foreman, construction engineer, assistant division engineer, division engineer at Meadville, Pa., and trainmaster. From March, 1909, until November, 1910, he was general agent of the operating department at Chicago, and then became superintendent at Rochester, N. Y., which position he held until May, 1912. From May, 1912, until November 1, 1916, he was superintendent at Marion, O., and then became superintendent at Youngstown, O., where he remained until November 1, 1917. From the latter date until June 15, 1918, he was superintendent of transportation and then served as general superintendent of the lines west until March 1, 1920. He then be-

R. E. Woodruff

came manager of the Hornell region at Hornell, N. Y. Mr. Woodruff was later appointed division superintendent at Buffalo, which position he was holding at the time of his recent appointment.

Traffic

Edward A. Hynes, general agent on the Chicago & Alton at Chicago, has been promoted to assistant general freight agent, with the same headquarters.

W. L. Meyers has been appointed division freight agent of the Missouri-Kansas-Texas Railroad, with headquarters at Tulsa, Okla., succeeding **H. W. Stone,** transferred.

William J. Becker has been appointed division freight agent of the New York region of the Erie, with headquarters at Scranton, Pa., succeeding **Thomas E. McAndrews,** promoted.

Willis A. Wilson, district passenger agent on the Great Northern at Duluth, Minn., has been promoted to assistant general passenger agent, with headquarters at St. Paul, Minn.

A. J. Tomassi has been appointed general agent of the Atlanta & West Point, the Western Railway of Alabama and the Georgia Railroad, with headquarters at New Orleans, La., succeeding **W. B. Terhune,** transferred.

E. W. Long has been appointed assistant general freight agent of the Seaboard Air Line, with headquarters at Charlotte, N. C., effective February 15, and the position of division freight agent has been abolished.

H. L. Cole has been appointed division freight agent of the Delaware, Lackawanna & Western, with headquarters at Syracuse, N. Y., succeeding

W. B. Speirs, who has resigned to engage in other business. Mr. Cole's appointment is effective February 15.

E. A. Healey, traveling agent on the Minneapolis & St. Louis, with headquarters at Chicago, has been promoted to general agent at Duluth, Minn., succeeding **M. J. Hannam,** resigned to become general agent on the Toledo, Peoria & Western at Minneapolis, Minn.

F. W. Jones has been appointed assistant general freight agent of the Norfolk & Western, with headquarters at Columbus, O., succeeding **G. C. Van Zandt. F. S. Baird** has been appointed assistant general freight agent, with headquarters at Roanoke, Va.

J. Harmon Wilson, assistant general freight agent of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed general eastern freight agent, with headquarters at New York City, succeeding **S. M. Stevenson.** Mr. Wilson was born in Providence, R. I., on November 11, 1870, and entered railroad service as clerk in the office of the Great Southern Despatch at Philadelphia, Pa., on January 18, 1891. On July

J. H. Wilson

15, 1899, he was appointed traveling agent, on July 1, 1903, agent; and on August 15, 1916, general agent, with headquarters at Philadelphia in each instance. On March 15, 1920, he was appointed foreign freight agent of the Norfolk & Western at Norfolk, Va., and on September 16, 1920, he became assistant general freight agent at Columbus, O. On June 1, 1922, he was transferred to Roanoke, Va., as assistant general freight agent in charge of solicitation, which position he was holding at the time of his recent appointment.

S. M. Rankin, who has been appointed manager of mail and express traffic of the Pennsylvania, with headquarters at Philadelphia, was born on August 8, 1871, at Sewickley, Pa. He entered railway service on June 19, 1887, as a telegraph operator on the Eastern division of the Pennsylvania, and until January 1, 1902, was chief train dispatcher's assistant and chief passenger clerk in the office of the general superintendent of transportation of the Pennsylvania, lines West of Pittsburgh. On January 1, 1902, he became chief clerk in the office of the general superintendent of passenger transportation, which position he held until February 1, 1915, when he was appointed assistant to the general superintendent of passenger transportation. From March 1, 1916, until March 1, 1920, he was superintend-

S. M. Rankin

ent of passenger transportation of the lines West of Pittsburgh, and then became assistant chief of transportation—passenger of the Pennsylvania system, which position he was holding at the time of his recent appointment as manager of mail and express traffic.

Nicolai I. Kovatcheff has been appointed general agent on the Kansas City Mexico & Orient, with headquarters at Mexico City, Mex., succeeding **Roberto Flores. W. C. Anglund,** commercial agent at Abilene, Tex., has been promoted to general agent, with the same headquarters.

A. C. McKinley, district freight agent on the Lake Erie and Western district of the New York, Chicago & St. Louis, with headquarters at Chicago, has been promoted to general agent in the freight department of the Lake Erie and Western and Clover Leaf districts, with the same headquarters.

S. M. Stevenson, general eastern freight agent of the Norfolk & Western, with headquarters at New York City, has been appointed assistant freight traffic manager, with headquarters at Roanoke, Va. Mr. Stevenson was born on May 12, 1861, in Yonkers, N. Y., and entered railroad service on January 15, 1881, as stenographer in the freight traffic department of the Virginia, Tennessee & Georgia Air Line, a freight dispatch line in New York. On June 1, 1889, he was appointed chief clerk, on October 10, 1900, assistant general eastern agent and on December 11, 1903, general eastern agent. He was appointed assistant general freight agent on May 16, 1918, and from July 1, 1918, until November 1 of that year he was traffic control manager under the United States Railroad Administration, returning to his duties as assistant general freight agent on the latter date. On March 15, 1920, he was appointed general eastern freight agent with headquarters in New York City, which position he occupied at the time of his recent appointment as assistant freight traffic manager of the Norfolk & Western.

F. E. Willman, chief clerk to the general coal freight agent of the Norfolk & Western, has been appointed coal freight agent, with headquarters at Roanoke, Va. Mr. Willman was born in Cleveland, O., on November 20, 1889, and entered railroad service with the Pennsylvania in 1905, at Cleveland, where he was employed as yard clerk until 1909 when he took a position with the New York Central as transportation department clerk. While with the latter railroad, he was employed from 1910 until 1912 as clerk in the freight station and, from June 16, 1913, until October 30, 1915, was a clerk in the tariff bureau. From November 1, 1915, until November 15, 1924, he served successively as rate clerk and chief clerk in the coal and ore department, his entire railroad

F. E. Willman

experience up to this time being in Cleveland. On January 1, 1925, he came to the Norfolk & Western as chief clerk to the general coal freight agent, which position he was holding at the time of his recent appointment.

The jurisdiction of **E. P. King,** general baggage and mail agent and superintendent of dining service of the Nickel Plate district of the New York, Chicago & St. Louis, with headquarters at Cleveland, Ohio, has been extended over the entire system. **W. H. Cunningham,** assistant general freight agent of the Nickel Plate district, with headquarters at Chicago, has been promoted to general freight agent of the Nickel Plate district, with headquarters at Cleveland, succeeding **Edwin Kluever,** promoted to freight traffic manager. Mr. Cunningham has been succeeded by **E. H. Spangenberg,** eastern freight agent, with headquarters at New York. **J. H. Day,** assistant general freight agent, with headquarters at Cleveland, has been promoted to general freight agent, with the same headquarters. **George B. Merrill,** district traffic agent, with headquarters at Philadelphia, Pa., has been promoted to

general eastern freight agent for the Nickel Plate district, with headquarters at New York, succeeding Mr. Spangenberg. **E. F. Jacobson,** has been appointed a general agent in the freight department, with headquarters at Philadelphia.

G. F. Butler, general freight agent of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed freight traffic manager, with the same headquarters, succeeding **J. R. Ruffin,** deceased. Mr. Butler was born on August 24, 1877, in Richmond, Va., and first entered the service of the Norfolk & Western as a messenger and clerk on July 1, 1891, in the office of the freight claim agent. In December, 1895, he was employed as a clerk in the freight traffic department at Roanoke, being advanced to soliciting freight agent, with headquarters at Chicago, on October 1, 1902. He became traveling freight agent, with headquarters at Roanoke, Va., on October 1, 1907, and chief rate clerk on January 1, 1909. Mr. Butler was advanced to chief clerk to the general freight agent on Feburary 1, 1912, and on June 1, 1913, was advanced to chief clerk to the freight traffic manager. On December 15, 1917, he was appointed assistant general freight agent. He became general freight agent on June 1, 1922, which position he was holding at the time of his recent appointment as freight traffic manager.

G. F. Butler

Oscar W. Cox, general coal freight agent of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed general freight agent, with headquarters in the same city, succeeding **G. F. Butler.** Mr. Cox was born at Olive Furnace, O., on February 13, 1879, and entered the service of the Norfolk & Western on February 14, 1897, as a telegraph operator and ticket agent at Columbus, O. On December 1, 1899, he entered the freight traffic department at Columbus as telegraph operator and clerk, being given a regular clerkship on May 8, 1903. While still in the Columbus office, he was appointed soliciting freight agent on May 1, 1910, traveling freight agent on March 1, 1911, and chief clerk on July 3, 1913. On March 16, 1920, he was appointed commercial agent at Toledo, O., and on January 16, 1922, was appointed division freight agent with headquarters at Roanoke, Va. On June 1, 1922, he became coal freight agent, and on May 1, 1925, he was appointed general coal freight agent, which position he held at the time of his appointment to general freight agent.

O. W. Cox

G. C. Van Zandt, assistant general freight agent of the Norfolk & Western, with headquarters at Columbus, O., has been appointed general coal freight agent, with headquarters at Roanoke, Va. Mr. Van Zandt was born in Newton Hamilton, Pa., on August 3, 1869, and first entered the service of the Norfolk & Western, as a stenographer-clerk in the office of the general superintendent of transportation at Cincinnati. On April 1, 1892, he became secretary to the general superintendent and on August 1, 1893, advanced to chief clerk to the superintendent, Winston-Salem line, and to chief clerk to the general agent and superintendent of transportation on September 14, 1897. On July 1, 1901, he became chief clerk to the superintendent of the Scioto division, being advanced to agent at Ironton, O., on March 1, 1902. He was appointed agent at Columbus, O., on December 8, 1910, and general agent at Cincinnati, on December 1, 1912. Mr. Van Zandt was appointed assistant general freight agent, with headquarters at Columbus on June 1, 1922, which position he was holding at the time of his recent appointment.

G. C. Van Zandt

LeRoy T. Wilcox, who has been promoted to assistant freight traffic manager of the Union Pacific, with headquarters at Omaha, Neb., was born on May 30, 1876, at Chicago, and entered railway service on January 1, 1891, as a mail boy on the Chicago, Rock Island & Pacific in that city. Mr. Wilcox held the position of mail boy for about a year and was then placed in the general freight office as a messenger. He attended night school while with the Rock Island in Chicago, and held various positions in the general freight office until 1898 when he was transferred to Kansas City as chief clerk in the commercial office. In March, 1901, he entered the employ of the Union Pacific-Southern Pacific as a rate clerk at that point and later he served successively as assistant chief clerk and as export and import agent. In November, 1906, Mr. Wilcox was transferred to the office of the traffic director as rate, tariff and statistical clerk and 11 years later he became traffic assistant to the interstate commerce attorney in a newly created department, continuing in that capacity until July 1, 1918, when he was appointed a traffic assistant in the Central Western region of the United States Railroad Administration. He returned to the Union Pacific on March 1, 1920, as assistant to the commerce counsel and two months later he was advanced to assistant to the freight traffic manager, in charge of commerce work, a position he held until his promotion to assistant freight traffic manager on February 1.

LeRoy T. Wilcox

Tom E. LeSueur, who has been promoted to general passenger agent of the New York, Chicago & St. Louis, with headquarters at Cleveland, O., was born in October, 1886, at Defiance, O., and attended the public schools in that city and Toledo, O. He entered railway service in June, 1901, as an office boy in the general freight department of the Toledo & Ohio Central (now the Ohio

Central lines of the New York Central) at Toledo. Later he was advanced to a clerk in the accounting department and on January 1, 1905, he was promoted to assistant ticket agent in the Toledo, St. Louis & Western (now the Clover Leaf district of the Nickel Plate)—T. & O. C. city ticket office at Toledo. In February, 1907, he was appointed a rate clerk in the general passenger department of the Clover Leaf at the same point, serving in a similar position on the Chicago & Alton at St. Louis, Mo., and at Chicago from 1908 to September, 1912. Mr. LeSueur then returned to the Clover Leaf as chief clerk in the passenger department at Toledo and in June, 1920, he became chief clerk in the general passenger office of the Nickel Plate at Cleveland, a position he has held continuously until his promotion to general passenger agent on February 1.

C. H. Barnewolt, assistant general freight agent of the Toledo, Peoria & Western, with headquarters at Peoria, Ill., has been promoted to traffic manager, with the same headquarters, and the positions of general freight and passenger agent and assistant general freight agent have been abolished. **Daniel Mowat** has retired as general freight and passenger agent in charge of the traffic department after 57 years in the service of the Toledo, Peoria & Western, but will remain in an advisory capacity. **M. J. Hannam,** general agent on the Minneapolis & St. Louis at Duluth, Minn., has been appointed general agent at Minneapolis, Minn. **C. J. Huff,** general agent at San Francisco, Cal., will in addition act as general agent at Los Angeles, Cal. Mr. Mowat was born at New York on September 28, 1852, and entered railway service in 1870 as a messenger on the Toledo, Peoria & Warsaw (now the Toledo Peoria & Western) at Peoria. He then served in various positions in the traffic department and on May 31, 1884, he was promoted to agent. Four years later Mr. Mowat was promoted to assistant general freight agent. While general freight agent he acted as president of the Freight Claim Association during 1908 and 1909. On October 1, 1918, he was promoted to general freight and passenger agent, a position he has held continuously until his retirement as active head of the traffic department.

Mechanical

James Grant, general foreman of the Atlantic Coast Line, with headquarters at Port Tampa, Fla., has been appointed shop superintendent of the Tampa, Fla., shops.

James Paul, assistant superintendent of motive power of the Atlantic Coast Line, has been appointed superintendent of motive power of the Third division, with headquarters at the Tampa Shops, Tampa, Fla.

F. W. Hankins, who has been appointed chief of motive power of the Pennsylvania, with headquarters at Philadelphia, was born in London, England, in 1876. He entered railway service on the Pittsburgh & Western (now a part of the Baltimore & Ohio) in 1891, as a machinist's apprentice. He entered the service of the Pennsylvania in 1897 as a machinist and after various promotions was advanced to master mechanic in 1916. He became general superintendent of motive power of the Eastern lines in 1919, and general superintendent of motive power of the Central region in 1920, which position he was holding at the time of his recent appointment as chief of motive power.

William S. Jackson, mechanical superintendent of the New York region of the Erie, with headquarters at Jersey City, N. J., has been appointed superintendent of motive power of the system, with headquarters at New York, effective February 15. Mr. Jackson was born on August 12, 1878, at Ashtabula, O., and was educated in the public schools. He entered railway service in September, 1894, with the Lake Shore & Michigan Southern (now a part of the New York Central), and until 1911 was consecutively foreman and general foreman. From 1911 until 1916, he was with the Interstate Commerce Commission as locomotive inspector and since 1916 has served successively as master mechanic and mechanical superintendent, which latter position he was holding at the time of his recent appointment.

Rufus H. Flinn, who has been appointed superintendent of motive power of the Northern division of the Central region of the Pennsylvania, with headquarters at Buffalo, N. Y., was born on March 8, 1887, at Camden, N. J., and was graduated from Cornell University with the degree of M. E. in 1909. He entered railway service on July 1, 1902, as assistant draftsman in the Camden,

R. H. Flinn

N. J., shops of the Pennsylvania. He became locomotive fireman on the West Jersey & Seashore in June, 1906, and was transferred to the Columbus, Ohio, shops as special apprentice on June 28, 1909. From February, 1911, until June, 1912, he was engaged in special work for the general superintendent of motive power at Pittsburgh, and from the latter date until May, 1913, was motive power inspector in the office of the superintendent of motive power at Columbus, Ohio. He was general foreman at Louisville, Ky., from May, 1913, to January, 1915, and was then transferred in the same capacity to Bradford, Ohio, where he remained until June, 1916, Mr. Flinn then served as assistant master mechanic at Allegheny, Pa., from June, 1916, until November, 1917, and then became assistant engineer of motive power at Toledo, Ohio, which position he held until July, 1918, when he became master mechanic at Terre Haute, Ind. He served in this capacity successively at Indianapolis, Ind., and at Columbus, Ohio, where he was stationed at the time of his recent appointment.

Engineering, Maintenance of Way and Signaling

G. A. Noren, designing engineer of the New York Central Railroad, Buffalo and East, with headquarters at New York, has been appointed engineering

G. A. Noren

assistant to the vice-president, with the same headquarters. Mr. Noren was born on April 6, 1886, at New Britain, Conn., and was graduated from the University of Pennsylvania in 1910. He entered railway service in June of that year as a rodman for the Pennsylvania. In October of the following year he left railway service to become assistant engineer for the Monterey Electric Railway Light & Power Company, Monterey, Mex., and in May, 1912, entered private practice in general engineering at Monterey. Later in the same year he again entered railway service as assistant engineer on the four-tracking improvement on the Hudson River division of the New York Central and in February, 1916, became assistant engineer on the preliminary and final location of the river crossing and west approaches for the Hudson River Connecting Railroad (now a part of the New York Central) near Castleton, N. Y. He became resident engineer of the New York Central at Poughkeepsie, N. Y., on station improvements in December, 1916, and in April of the follow-

ing year became assistant district engineer of the Eastern district. In February, 1920, Mr. Noren was advanced to engineer of grade crossings, with headquarters at New York. In 1924 he was appointed designing engineering, which position he was holding at the time of his recent appointment.

E. A. Dougherty has been appointed designing engineer of the New York Central Railroad, Lines Buffalo and East, with headquarters at New York.

D. R. Morris has been appointed supervisor of signals of the Atlantic Coast Line, with headquarters at Waycross, Ga.

B. E. Widder has been appointed engineer of buildings of the Atlantic Coast Line, with headquarters at Wilmington, N. C., succeeding **A. M. Griffin,** resigned.

A. C. Watson has been appointed chief engineer of the Long Island, with headquarters at Jamaica, N. Y., succeeding **T. J. Skillman,** who has been appointed chief engineer of the Pennsylvania.

Robert S. Parsons, vice-president of the Ohio region of the Erie, with headquarters at Youngstown, Ohio, has been appointed chief engineer of the system, with headquarters at New York, effective February 15.

G. Murray has resumed his duties as engineer of the Melville division of the Saskatchewan district of the Canadian National, with headquarters at Melville, Sask., following a leave of absence, replacing **A. J. Gayfer,** transferred.

E. B. Fithian, assistant engineer of maintenance of way of the Missouri Pacific, with headquarters at St. Louis, Mo., has been appointed division engineer of the Wichita division, with headquarters at Wichita, Kan., succeeding **L. Winship,** who has been appointed assistant division engineer of the Colorado division, with headquarters at Hoisington, Kan.

Raymond Swenk, who has been appointed engineer maintenance of way of the Southern division of the Pennsylvania, with headquarters at Wilmington, Del., was born on January 3, 1886, at Sunbury, Pa. He was graduated from Pennsylvania State College in 1907 and entered railroad service on June 17, 1907, as a rodman on the Sunbury division of the Pennsylvania. He was transferred to the Conemaugh division on January 6, 1909. On November 1, 1913, he became transitman in the office of the chief engineer maintenance of way and on May 1, 1914, he was appointed assistant supervisor of the Delaware division, with headquarters at Clayton, Del. He was transferred to the Atlantic division at Camden, N. J., on May 10, 1916, and then to the Philadelphia Terminal division at Philadelphia, Pa., on May 15, 1917. On September 16, 1918, he was appointed supervisor of the Schuylkill division, with headquarters at Norristown, Pa., being transferred to the Philadelphia division, Middletown, Pa., on July 10, 1922, and then to Paoli, Pa., on July 1, 1924. He was appointed division engineer of the Pittsburgh division, with headquarters at Pittsburgh, Pa., on November 1, 1924, which position he was holding at the time of his recent appointment.

George D. Eddy, who has been appointed valuation engineer of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., was born on December 11, 1871, at Hemmingford, Que., and attended the Malone Academy, Malone, N. Y., in 1888 and 1889. He entered railway service in June, 1897, as a rodman on the New York & Ottawa (now a part of the New York Central), and in September of the following year he became assistant engineer of the Muscatine North & South (now the Burlington, Muscatine & Northwestern), where he remained until March, 1899, when he entered the employ of the Northern Pacific as a rodman, later becoming an inspector. In January, 1900, Mr. Eddy was appointed assistant engineer of maintenance and dock construction of the Great Northern, being advanced to engineer in charge of construction in March, 1906. Eight years later he became assistant valuation engineer of the Great Northern and in January, 1919, he was promoted to valuation engineer. Mr. Eddy left the Great Northern in June, 1925, to engage in special engineering work for A. Guthrie & Co., St. Paul, Minn., and in November of the same year he became assistant engineer with the Presidents' Conference Committee on Federal Valuation, with headquarters at Chicago. He remained in this position until his appointment as valuation engineer of the Frisco on January 17.

Special

G. R. Miller, chief clerk to the superintendent of reading rooms of the Atchison, Topeka & Santa Fe, has been promoted to superintendent of reading rooms, with headquarters at Albuquerque, N. M., succeeding **S. E. Busser,** deceased.

Herbert Deeming, assistant editor of the Santa Fe Magazine of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, has been apppointed editor, succeeding **Albert MacRae,** deceased. Mr. Deeming was born in England on April 16, 1880, and entered railway service in October, 1897, as a stenographer and clerk in the general passenger department of the Fremont, Elkhorn & Missouri Valley, at Omaha, Neb. After a short period in the employ of the American Express Company at Omaha he returned to the Fremont, Elkhorn & Missouri Valley and in July, 1902, he entered the auditor's office of the Chicago & Western Indiana at Chicago. From July, 1903, until February, 1916, he acted as secretary of the General Managers' Association at Chicago. Mr. Deeming was then appointed assistant director of the Railway Educational Bureau at Omaha. For the five years following 1916 he was connected with several industrial concerns and in November, 1921, Mr. Deeming was appointed assistant editor of the Santa Fe Magazine at Chicago, a position he has held continuously until his further appointment as editor.

Obituary

G. W. Whiteman, for forty-five years with the Pennsylvania and chief inspector of the system, died on February 5, en route to Florida.

W. L. Richards, assistant to the general manager of the Union Pacific, with supervision over all safety work, died on January 9 at his home in Omaha, Neb., following an illness from a skin disease.

Robert B. Robinson, engineer of maintenance of way of the Union Pacific, died on February 1 at St. Joseph's hospital, Omaha, Neb., from heart complications arising from blood poisoning which followed an extraction of a tooth during January. Mr. Robinson was born on March 3, 1878, at Mt. Holly, Pa., and, after a high school and university education, entered railway service in April, 1899, on the Union Pacific as a masonry inspector. He then served successively with the Union Pacific and the Oregon Short Line as a rodman, instrumentman and draftsman, entering the employ of the O. S. L. in 1904. In 1914 he was promoted to assistant engineer on the Oregon Short Line, with headquarters at Salt Lake City, Utah, and the following year he was again promoted to division engineer, with headquarters at Pocatello, Idaho. Mr. Robinson became engineer of maintenance of way, with headquarters at Pocatello, in 1916 and the next year his jurisdiction was extended to cover all signal matters previously under the supervision of the superintendent of transportation and telegraph. He was promoted to engineer of maintenance of way of the Union Pacific, with headquarters at Omaha, in May, 1919, a position he held continuously until the time of his death.

R. B. Robinson